

Bay of Plenty

Regional Natural Resources Plan

(Formerly the Regional Water and Land Plan)

Update Record

Date	Change/Update	Provisions Affected	Signature
10 January 2020	<p>“Activity Site” definition was fully omitted from Definition of Terms instead of only a partial omission as required under the National Environmental Standards for Plantation Forestry Regulations 2017 and as approved by Council. Portion of non-strike through text reinserted.</p>	<ul style="list-style-type: none"> Activity Site – A separate area of land on which the activity is undertaken. The activity site may be either a single continuous area or comprise several adjoining blocks, sections, paddocks or compartments that together make up a single continuous area. Earthwork activities for forestry that are physically separate and distinct and do not create overlapping or cumulative environmental effects that are more than minor are classified as separate activity sites. 	
1 May 2018	<p>Amendments to meet the requirements of the National Environmental Standards for Plantation Forestry Regulations 2017.</p>	<ul style="list-style-type: none"> IM M9 (Method 50) Operate and accreditation system as specified in schedule 12 removed from plan. LM R7 (Rule 2) Permitted – Land and Soil Disturbance by Vegetation Clearance - PART 4(a) removed from plan and Part 4(b) and 4(c) renumbered. LM R11 (Rule 3) Permitted – Forest Harvesting and Forestry Earthworks by Accredited Forestry Operators removed from plan. Table LM 6 Permitted - Threshold Limits for Forestry Earthworks by Accredited Operators removed from plan. LM R12 (Rule 3A) Controlled – Forest Harvesting and Forestry Earthworks by Accredited Forestry Operators removed from plan. Flow Diagram LM 3 – Forest Harvesting and Earthworks removed from plan. WL R7 (Rule 84) Permitted – Minor Disturbance of Vegetation in Wetlands Associated with Cable Logging by Accredited Forestry Operators removed from plan. WL R8 (Rule 84A) Restricted Discretionary – Minor Disturbance of Vegetation in Wetlands Associated with Cable Logging removed from plan. Schedule 12 Forestry Operators Accreditation System removed from plan. Inserted advisory notes directing users to requirements of the National Environmental Standards Plantation Forestry if undertaking 	

Date	Change/Update	Provisions Affected	Signature
		activities for forestry purposes for the following general rules: LM R1 (Rule 1) LM R2 (Rule 1A) LM R3 (Rule 1B) LM R4 (Rule 1C) LM R5 (Rule 1D) LM R6 (Rule 1E) LM R7 (Rule 2) LM R8 (Rule 2A) LM R9 (Rule 2B) LM R10 (Rule 2C) LM R13 (Rule 4) LM R14 (Rule 4A) BW R1 (Rule 51) BW R2 (Rule 51A) BW R3 (Rule 51B) BW R4 (Rule 51C) BW R12 (Rule 58) BW R13 (Rule 58A) BW R14 (Rule 58B) BW R15 (Rule 59) BW R16 (Rule 59A) BW R17 (Rule 59B) BW R18 (Rule 59C) BW R19 (Rule 59D) BW R20 (Rule 60) BW R21 (Rule 60A) BW R22 (Rule 60B) BW R24 (Rule 62) BW R25 (Rule 62A) BW R27 (Rule 64) BW R28 (Rule 64A) BW R29 (Rule 65) BW R36 (Rule 71).	
	Other minor amendments.	<ul style="list-style-type: none"> Removed redundant definitions that relate to plantation forestry activities as follows: Accreditation criteria., Accreditation Panel, Accredited Forestry Operator, Activity Site, Applicant, Audit Team, Demerit points, Earthworks operator, FOAS, Forestry, Forestry activities, Forestry company, Forestry Operator, Harvesting operations, Operator, Operational Control, Vegetation Clearance – bullet (n). Included a definition for the terms Plantation Forest or Plantation Forestry into the definition of terms. 	
	Consequential amendments.	<ul style="list-style-type: none"> Internal references amended where necessary. Amended table of contents. 	
14 September 2017	Amendment for reformatting.	<ul style="list-style-type: none"> New chapter headings created for locating the specific provisions relating to Land Management, On-site Effluent Treatment, Tauranga Harbour, Kaituna, Maketū and Pongakawa, Rotorua Lakes, Lake Rotorua Nutrient Management, Tarawera, Rangitāiki, Whakatāne and Tauranga, Ōhiwa Harbour and Waitahe, Waioeka and Otara, East Coast, Natural Hazards, and Air Quality. Geothermal Resources chapter moved. Beds of Rivers, Lakes, Streams and Wetlands renamed to Beds of Water Bodies. Issues, objectives, policies, and methods relevant to other chapters moved from Integrated Management of Land and Water chapter to Land Management, Ōhiwa Harbour, Rotorua Lakes, Tauranga Harbour as appropriate. Relevant issues, objectives, policies, and methods moved from Water Quantity to Natural Hazards. Rules from Section 9 moved to chapters as appropriate. All chapters, issues, objectives, policies, methods, rules, figures, tables, flow diagrams and page numbers renumbered using a two letter prefix based on chapter title. Explanation/principal reasons for provisions moved to Appendix 1. Financial Contributions chapter moved to Appendix 2. Information to be submitted with Resource 	

Date	Change/Update	Provisions Affected	Signature
		<ul style="list-style-type: none"> Consent Applications chapter moved to Appendix 3. Anticipated Environmental Results chapter moved to Appendix 4. Cross Boundary Issues chapter moved to Appendix 5. Plan Review Process chapter moved to Appendix 6. 	
	Other minor amendments.	<ul style="list-style-type: none"> Environment Bay of Plenty changed to The Bay of Plenty Regional Council where appropriate. New Zealand Historic Places Trust changed to Heritage New Zealand Pouhere Taonga. Ministry for Agriculture and Fisheries changed to Ministry for Primary Industries. Changed references to RMA from Roman numerals to Arabic numerals. Removed redundant references to sections in the previous Regional Policy Statement, now replaced by the Operative Regional Policy Statement. Removed paragraph numbering. Deleted explanatory text regarding renumbering carried out by previous plan changes. Deleted definitions for “permitted activity”, “controlled activity”, “restricted discretionary activity”, “discretionary activity”, and “prohibited activity” as these reflected outdated provisions of the Act. Waimana River changed to Tauranga River. Waiotahi changed to Waiōtahe. 	
	Consequential amendments.	<ul style="list-style-type: none"> Changed name of plan. Updated “Reader’s Guide”. Amended table of contents and included table of contents for each chapter. Updated “List of Abbreviations and Acronyms” to reflect name changes. Internal references amended as necessary. Updated the “Index” to a Conversion Index for Provisions and moved to front of document. 	
8 October 2014	Insert new paragraph from policy A4 of the National Policy Statement for Freshwater Management 2014 into the Regional Plan.	<ul style="list-style-type: none"> Policy 43A Discharges to Water and Land. 	
28 June 2011	Insert policies A4 and B7 from the National Policy Statement for Freshwater Management into the Regional Plan. Minor amendment.	<ul style="list-style-type: none"> Policy 43A Discharges to Water and Land. Policy 68A Take and Use of Surface Water and Groundwater. Pages 255-256. 	

Date	Change/Update	Provisions Affected	Signature
2 March 2010	Plan Change 8 adopted and incorporated into the regional plan.	<ul style="list-style-type: none"> Groundwater Bores: Rules 39, 39A, 40, 40A and 40B. Definition of Terms. Flooding Conditions: Rules 23, 24, 30, 30A, 31, 31A, 33, 44, 44A, 46, 47, 70A and 79. 	
	Plan Change 8 - minor amendments.	<ul style="list-style-type: none"> Rules 23, 31, 31A, 33 (renumbered). Method 35B and Index renumbered). Updated references to renumbered rules. 	
	Other minor amendments.	<ul style="list-style-type: none"> Rule 46A (typographical error and renumbered conditions). Section 5.1 Para 1 (typographical error). Section 9.1 Rules Table (includes rules introduced by Plan Change 8 rules). Section 9.10 Para 14 and Definition of Terms - Farm Quality Programme (correction to plan cross-reference). 	
	Consequential amendments.	<ul style="list-style-type: none"> Update record inserted. Table of Contents updated. 	

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BAY OF PLENTY REGIONAL NATURAL RESOURCES PLAN

Formerly the Bay of Plenty Regional Water and Land Plan

1 December 2008

Plan Change 8 (Groundwater Bores and Flooding Conditions)
incorporated on 2 March 2010

Amended 28 June 2011 as required by National Policy Statement for
Freshwater Management 2011

Amended 8 October 2014 as required by National Policy Statement for
Freshwater Management 2014

Amended 14 September 2017 for reformatting

Amended 1 May 2018 as required to meet the National Environmental
Standards for Plantation Forestry Regulations 2017

Bay of Plenty Regional Council

RESOURCE MANAGEMENT ACT 1991

ENVIRONMENT BAY OF PLENTY BAY OF PLENTY REGIONAL COUNCIL

BAY OF PLENTY REGIONAL WATER AND LAND PLAN

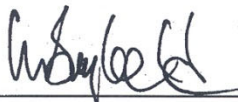
It is hereby certified that this is the Bay of Plenty Regional Water and Land Plan approved by resolution of the Council on the 15th day of October 2008.

The Council has further resolved that the Plan shall become operative on the 1st day of December 2008.

The Common Seal of the **BAY OF PLENTY REGIONAL COUNCIL** was affixed hereto this 12th day of November 2008, in the presence of:



John Cronin
Chairman



Bill Bayfield
Chief Executive

Plan Change No. 8 (Groundwater Bores and Flooding Conditions) incorporated on 2 March 2010.



John Cronin
Chairman



Bill Bayfield
Chief Executive

Contents

Reader Guidance and Index of Provisions

Reader's Guide

How to use this Regional Plan

List of Abbreviations and Acronyms

Conversion Index for Provisions

Introduction

KT Kaitiakitanga

Land and Water

IM Integrated Management of Land and Water

LM Land Management

DW Discharges to Water and Land

OSET On-Site Effluent Treatment

WQ Water Quantity and Allocation

BW Beds of Water Bodies

WL Wetlands

Water Management Areas

TH Tauranga Harbour

KM Kaituna Maketū and Pongakawa

RL Rotorua Lakes

LR Lake Rotorua Nutrient Management

TW Tarawera

RT Rangitāiki

WT Whakatāne and Tauranga

OH Ōhiwa Harbour and Waiotahe

WO Waioeka and Otara

EC East Coast

GR Geothermal Resources

NH Natural Hazards

AQ Air Quality

Schedules

Schedule 1	Aquatic Ecosystem Areas
Schedule 2	Fish spawning and migrations calendar
Schedule 3	Watercourses in Land Drainage Schemes with Ecological Values
Schedule 4	High Risk Facilities
Schedule 5	Maintenance Areas of River Schemes and Land Drainage Schemes
Schedule 6	Floodways in the Bay of Plenty
Schedule 7	Instream Minimum Flow Requirements
Schedule 8	Approved Quality Assurance Programmes and Environmental Management Plans
Schedule 9	Water Quality Classification Standards and Criteria
Schedule 10	Freshwater Bathing Sites
Schedule 11	Lawfully Existing Hydroelectric Power Schemes
Schedule 12	Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017
Schedule 13	Statutory Acknowledgements in the Bay of Plenty Region
Schedule 14	Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries

Appendices

Appendix 1	Explanation/Principal Reasons for Provisions
Appendix 2	Financial Contributions
Appendix 3	Information to be Submitted with Resource Consent Applications
Appendix 4	Anticipated Environmental Results
Appendix 5	Cross Boundary Issues
Appendix 6	Plan Review Process

Contents

Reader's Guide	1
How to Use this Regional Plan	3
List of Abbreviations and Acronyms	4
Guide to Regional Rules	5
Conversion Index for Provisions	9

Reader's Guide

There may be some parts of this regional plan that are of particular interest to the reader. To find these parts, the following guide gives a brief summary of what each chapter is about.

Guide to Regional Rules: a list of all the regional rules in this plan.

Conversion Index for Provisions: provides a guidance table to convert provision numbers from the system used in previous versions with the alphanumeric system used in the current version.

Introduction: names the regional plan; defines its geographical coverage and the resource management issues within its scope; and outlines the purpose of the regional plan.

Kaitiakitanga: provisions to address section 6(e), 7(a) and 8 of the Resource Management Act 1991.

IM Integrated Management of Land and Water: provisions to address the integrated management of land and water resources in the Bay of Plenty region. Includes surface water and groundwater quality, soil conservation and land management practice issues (including riparian management), and effects of land cover on water quantity.

LM Land Management: provisions to manage the adverse effects of disturbance of land and soil by earthworks, cultivation, quarries, harvesting and vegetation clearance.

DW Discharges to Water and Land: specific provisions to manage the adverse effects of discharges of contaminants to water and land, discharges of water to water, stormwater discharges, and discharges from existing contaminated sites. This chapter relates to section 15 of the Resource Management Act 1991.

OSET On-site Effluent Treatment: no current content.

WQ Water Quantity and Allocation: provisions to allocate surface and groundwater, manage the adverse effects of damming and diversion, address the artificial control of lake water levels, and manage flood hazards. This chapter relates to section 14 of the Resource Management Act 1991. Instream minimum flow requirements are established in this chapter.

BW Beds of Water Bodies: provisions to manage the effects of activities in, on, under or over the beds of rivers, streams, lakes, and land drainage canals. Covers structures, disturbances of the bed, deposition of substances, reclamation and drainage, introduction or removal of plants, and stock presence in the beds of surface water bodies. This chapter relates to section 13 of the Resource Management Act 1991.

WL Wetlands: provisions to protect and maintain wetlands in the region, and encourage the creation of new wetlands in appropriate areas.

TH Tauranga Harbour: provisions to manage the Tauranga Harbour.

KM Kaituna Maketū and Pongakawa: no current content.

RL Rotorua Lakes: provisions to manage the Rotorua Lakes.

LR Lake Rotorua Nutrient Management: no current content.

TW Tarawera: no current content.

RT Rangitāiki: no current content.

WT Whakatāne and Tauranga: no current content.

OH Ōhiwa Harbour and Waioatahe: provisions to manage the Ōhiwa Harbour and Waioatahe.

WO Waioeka and Otara: no current content.

EC East Coast: provisions to manage freshwater in the East Coast.

GR Geothermal Resources: provisions to manage the allocation, damming and diversion, discharge of geothermal heat, fluid and energy. Drilling of geothermal bores and geothermal hazards are also addressed. This chapter relates to sections 14 and 15 of the Resource Management Act 1991.

NH Natural Hazards: contains provisions for management of flood hazards and land drainage.

AQ Air Quality: no current content.

Schedules 1 to 14: Contain more detailed information and data related to the above sections necessary to the provisions and requirements of the regional plan.

Definition of Terms: used in this regional plan.

Bibliography

Appendix 1: Explanation and Principal reasons for provisions

Appendix 2: Financial Contributions: defines circumstances where financial contributions may be used in relation to activities controlled by this regional plan, and the amount of the financial contribution

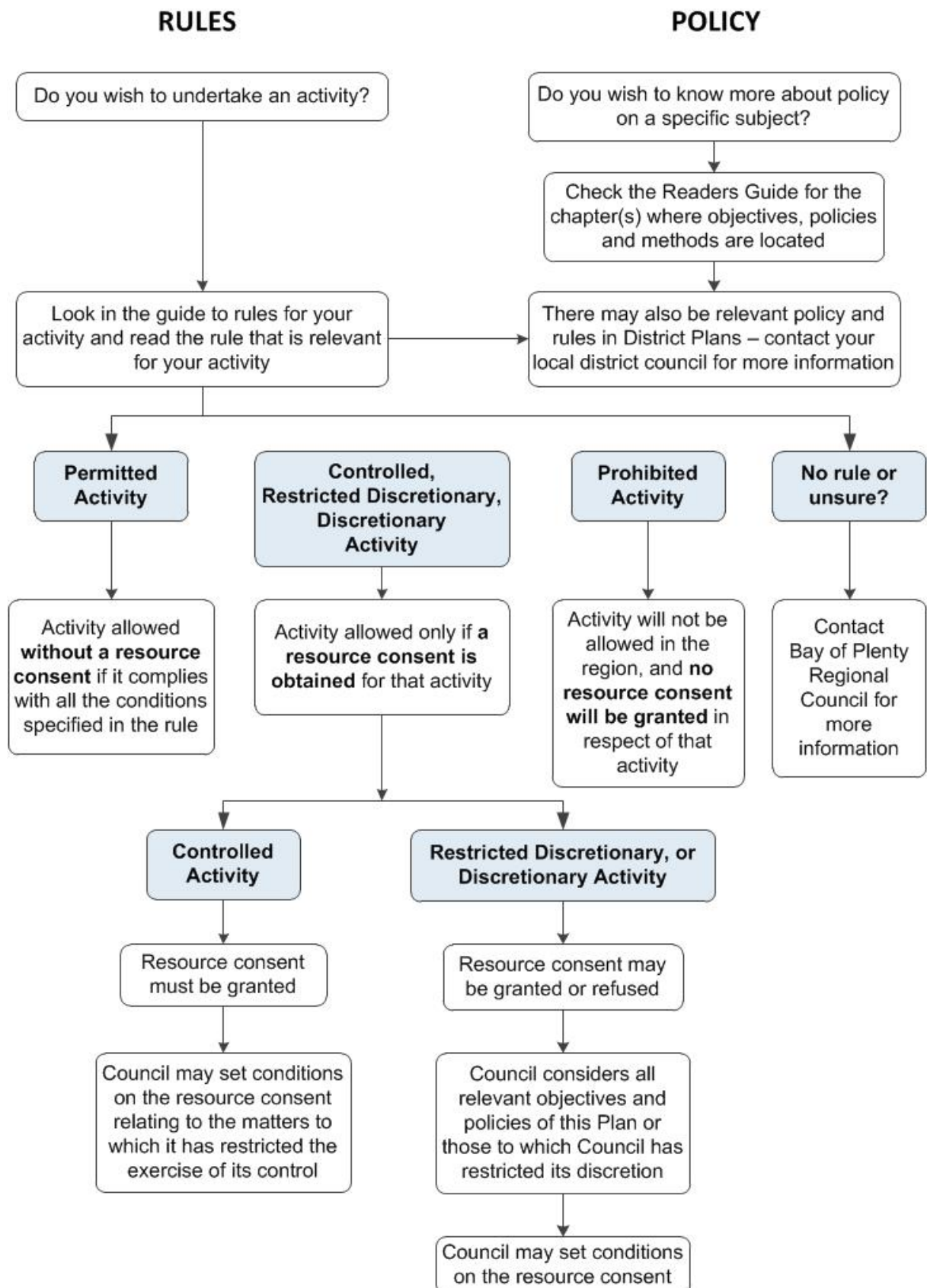
Appendix 3: Information to be submitted with Resource Consent Applications: directs resource consent applicants to contact the Bay of Plenty Regional Council to ensure sufficient information is submitted with a consent application.

Appendix 4: Anticipated Environmental Results: outlines the anticipated environmental results from implementation of the provisions of this regional plan.

Appendix 5: Cross Boundary Issues: the methods and processes that will be used to identify and address resource management issues that cross the boundaries between districts, and between regional councils.

Appendix 6: Plan Review Process: The process that will be used to review this regional plan, and assess the effectiveness and efficiency of its provisions.

How to use this Regional Plan



List of Abbreviations and Acronyms

Act/The Act	Resource Management Act 1991
AEP	Annual Exceedance Probability
CSC	Comprehensive Stormwater Consents
Regional Council	Bay of Plenty Regional Council
IFIM	Instream Flow Incremental Methodology
IMFR	Instream Minimum Flow Requirement
LTP	Long Term Plan
MALF	Mean Annual Low Flow
NERMN	Natural Environment Regional Monitoring Network
NZTA	New Zealand Transport Agency
OSET Plan	On-Site Effluent Treatment Regional Plan
RHYHABSIM	River Hydraulic Habitat simulation
The/this regional plan	Regional Natural Resources Plan
TLI	Trophic Level Index
WMA	Wetland Management Agreement

Guide to Regional Rules

Activities under this regional plan are permitted, discretionary or prohibited. A permitted activity is allowed without a resource consent if it complies with all the conditions specified in the rule. A discretionary activity is allowed only if a resource consent is obtained for that activity. A prohibited activity will not be allowed in the region, and no resource consent will be granted in respect of that activity.

Activity	Rule Number
Land and Soil Disturbance Activities	
Coastcare Works	LM R5, LM R6
Cultivation	LM R15, LM R16
Earthworks and Quarries	LM R1, LM R2, LM R3, LM R4
Forest Harvesting and Earthworks by Accredited Operators	LM R11, LM R12
Land and Soil Disturbance by Vegetation Clearance	LM R7, LM R8, LM R9, LM R10
Vegetation Clearance by Burning	LM R13, LM R14
Grazing and Stock in the Beds of Surface Water Bodies	
Controlled Stock Crossings	BW R37
Grazing of Land	LM R17, LM R18
Stock in the Beds of Surface Water Bodies	BW R38, BW R39, BW R40
Discharges of Nitrogen or Phosphorus from Land Use and Discharge Activities in the Rotorua Lakes Catchments	
Land Use Activities in Other Rotorua Lakes	RL R8, RL R9
Land Use Activities in Rotorua Lakes Catchment	RL R1, RL R2, RL R3, RL R4, RL R5, RL R6, RL R7
Discharges to Water and Land	
Agrichemicals - Application to Land	DW R12, DW R8
Aquatic Herbicide for Weed Control - Discharge Over Water	DW R1, DW R8
Bark and Wood Waste - Discharge to Land	DW R18, DW R8
Compost, Wood Fibre, Animal Manure, Grade Aa Biosolids or Vermiculture Material - Discharge to Land	DW R10, DW R8
Composting Operations (Greenwaste) - Discharge of contaminants to land in circumstances where it may enter water	DW R16, DW R8
Composting Operations (Offal and Animal Carcasses) - Discharge of contaminants to land in circumstances where it may enter water	DW R17, DW R8
Contaminated Land - Active Remediation, Remediation or Disturbance	DW R24, DW R25, DW R8
Dairy Shed or Piggery Effluent - Discharge to Land	DW R19, DW R8

Activity	Rule Number
Discharge of Water to Water	DW R6, DW R8
Discharge of Water to Water Between Artificial Watercourses	DW R4, DW R8
Discharges to Water or Land	DW R8
Dumping of Untreated Sewage and Household Wastes, and Discharge of Petroleum Hydrocarbons	DW R7, DW R8
Dye or Gas Tracers - Discharge to Water	DW R2, DW R8
Emergency Service Fire Training - Discharge of Foam to Land	DW R9, DW R8
Existing Farm Drains and Pumped Drainage Areas - Take, Diversion and Discharge of Water	DW R3, DW R8
Farm Dumps - Discharge of contaminants to land in circumstances where it may enter water	DW R13, DW R8
Fertiliser - Application to Land	DW R11, DW R8
Land Drainage Canals, Artificial Watercourses, and Modified Watercourses - Discharge of Salt Water to Water	DW R5, DW R8
Offal Holes - Discharge of contaminants to land in circumstances where it may enter water	DW R14, DW R8
Silage Pits and Stacks - Discharge of contaminants to land in circumstances where it may enter water	DW R15, DW R8
Stormwater - Discharge to Land Soakage	DW R22, DW R23, DW R8
Stormwater - Discharge to Water	DW R20, DW R21, DW R8
Take and Use of Water¹	
Bore Installation	39, 40, 43
Dewatering of Building and Construction Sites - Take and Discharge Water	42, 43
Groundwater - Take and Use	38, 43
Surface Water - Take and Use	41, 41A, 43
Take and Use of Water	43
Damming and Diversion of Water	
Damming of Surface Runoff Water	WQ R16, WQ R17, WQ R21
Damming of Water in the Bed of a River or Stream	WQ R18, WQ R19, WQ R21
Damming or Diversion of Water	WQ R21
Diversion of Stormwater (Surface Runoff)	WQ R14, WQ R21
Existing Flood Control Structures - Damming and Diversion of Flood Waters	WQ R15, WQ R21
Lawfully Established Hydroelectric Power Schemes	WQ R20

¹ Rules in this section have not been renumbered due to this section being subject to Plan Change 9 (Water Quantity)

Activity	Rule Number
Temporary Damming of Water in a Canal or Drain	WQ R13, WQ R21
Motu River and Specified Tributaries	
Activities in the Motu River Catchment (dam, divert, discharge, take and use water)	EC R1
Artificial Control of Water Levels in Natural Lakes	
Artificial Control of Water Levels in Natural Lakes	WQ R22
Activities in the Beds of Rivers, Streams, and Lakes	
Activity in the Beds of Streams, Rivers and Lakes	BW R36
Bed Disturbance - Boat Ramp and Jetty Maintenance	BW R30, BW R36
Bed Disturbance - Hazard Management	BW R31, BW R36
Bed Disturbance - Specified Purposes	BW R32, BW R36
Culverts (including extensions)	BW R15, BW R16, BW R17, BW R18, BW R19, BW R36
Culverts and Single Span Bridges - City Council, District Council, NZ Transport Agency only	BW R12, BW R13, BW R14, BW R36
Discharge Structures	BW R6, BW R36
Drift Decks	BW R27, BW R28, BW R36
Fords	BW R24, BW R25, BW R36
Lines, Cables or Pipelines - Under the Bed of a River, Stream or Lake	BW R9, BW R10, BW R36
Lines, Cables, Ropeways and Associated Structures - Over the Bed of a River, Stream or Lake	BW R8, BW R36
Mai Mai, Whitebait Stands and Game Bird Shooting Structures	BW R26, BW R36
Maintenance - Land Drainage Canals	NH R2, BW R36
Maintenance - River Schemes	NH R1, BW R36
Maintenance - Specified Streams and Rivers	NH R3, BW R36
Monitoring and Sampling Structures	BW R11, BW R36
Navigational Markers, Signs, Ski Lane Markers and Canoe Gates	BW R7, BW R36
Plant - Introduction or Removal	BW R34, BW R35, BW R36
Reclamation - Existing only	BW R33
Service Crossings Attached to Bridges	BW R23, BW R36
Single Span Bridges	BW R20, BW R21, BW R22, BW R36
Structure - Maintenance	BW R2, BW R36
Structure - Removal or Demolition	BW R29, BW R36

Activity	Rule Number
Structure - Use, Extension and Upgrade	BW R1, BW R3, BW R4, BW R36
Surface Water Intake Structures	BW R5, BW R36
Geothermal Water, Heat or Energy	
Geothermal Bore Installation	GR R4, GR R5, GR R6, GR R7
Geothermal Water - Damming or Diversion	GR R8
Geothermal Water - Discharge	GR R9, GR R10
Geothermal Water - Take and Use	GR R2, GR R3
Geothermal Water - Use in Accordance with Tikanga Maori	GR R1
Wetlands	
Introduction of Indigenous Plants	WL R1, WL R9
Maintenance and Enhancement of Certain Artificial Water bodies	WL R4, WL R9
Maintenance and Enhancement Under a Registered Management Document	WL R2, WL R9
Maintenance of Wetlands Created for Hydroelectric Generation	WL R5, WL R9
Minor Disturbance of Vegetation by Cable Logging	WL R7, WL R8, WL R9
Modification of a Wetland	WL R9
Removal of Exotic Vegetation from a Wetland by Hand or by Machinery	WL R6, WL R9
Sustainable Use of Wetlands	WL R3, WL R9

Conversion Index for Provisions

The table provides a guide to convert provision numbers from the system used in previous versions with the alphanumeric system used in the current version.

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
Kaitiakitanga	KT I1	1	KT O1	1	KT P1	1	KT M1	1		
	KT I2	2	KT O2	2	KT P2	2	KT M2	2		
	KT I3	3	KT O3	3	KT P3	3	KT M3	3		
	KT I4	4	KT O4	4	KT P4	4	KT M4	4		
	KT I5	5	KT O5	5	KT P5	5	KT M5	5		
	KT I6	6	KT O6	6	KT P6	6	KT M6	6		
	KT I7	7	KT O7	7	KT P7	7	KT M7	7		
	KT I8	8			KT P8	8	KT M8	8		
	KT I9	9			KT P9	9	KT M9	9		
					KT P10	10	KT M10	10		
					KT P11	11	KT M11	11		
					KT P12	12	KT M12	12		
					KT P13	13	KT M13	13		
					KT P14	14	KT M14	14		
					KT P15	15	KT M15	15		
					KT P16	16	KT M16	16		
					KT P17	17	KT M17	17		
					KT P18	18	KT M18	18		
					KT P19	19	KT M19	19		
					KT P20	20	KT M20	20		
							KT M21	21		
							KT M22	22		
							KT M23	23		
Integrated Management of Land and Water	IM I1	11	IM O1	8	IM P1	21	IM M1	25		
	IM I2	12	IM O2	10	IM P2	24	IM M2	28		
	IM I3	15	IM O3	13	IM P3	25	IM M3	29		
	IM I4	16	IM O4	14	IM P4	26	IM M4	30		
	IM I5	17	IM O5	15	IM P5	28	IM M5	44		
			IM O6	16	IM P6	30	IM M6	46		
			IM O7	22	IM P7	31	IM M7	47		
					IM P8	32	IM M8	48		
							IM M9	50		
							IM M10	56		
							IM M11	57		
							IM M12	60		
							IM M13	64		
							IM M14	65		
							IM M15	66		
							IM M16	67		
							IM M17	68		
							IM M18	72		
							IM M19	73		
							IM M20	74		
							IM M21	75		
							IM M22	76		
							IM M23	77		
							IM M24	79		
							IM M25	80		
							IM M26	81		

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
Land Management							IM M27	82		
							IM M28	84		
	LM I1	10	LM O1	9	LM P1	22	LM M1	24	LM R1	1
	LM I2	13	LM O2	17	LM P2	23	LM M2	26	LM R2	1A
			LM O3	19	LM P3	27	LM M3	27	LM R3	1B
			LM O4	20	LM P4	29	LM M4	31	LM R4	1C
			LM O5	21			LM M5	32	LM R5	1D
							LM M6	33	LM R6	1E
							LM M7	34	LM R7	2
							LM M8	35	LM R8	2A
							LM M9	36	LM R9	2B
							LM M10	37	LM R10	2C
							LM M11	38	LM R11	3
							LM M12	39	LM R12	3A
							LM M13	40	LM R13	4
							LM M14	45	LM R14	4A
							LM M15	49	LM R15	5
							LM M16	51	LM R16	5A
							LM M17	53	LM R17	10
							LM M18	54	LM R18	10A
							LM M19	55		
							LM M20	58		
							LM M21	59		
							LM M22	61		
							LM M23	70		
							LM M24	71		
							LM M25	78		
Discharges to Water and Land	DW I1	18	DW O1	23	DW P1	38	DW M1	97	DW R1	16
	DW I2	19	DW O2	24	DW P2	39	DW M2	98	DW R2	18
	DW I3	21	DW O3	25	DW P3	40	DW M3	99	DW R3	22
	DW I4	14	DW O4	27	DW P4	41	DW M4	100	DW R4	23
	DW I5	20	DW O5	28	DW P5	42	DW M5	102	DW R5	24
	DW I6	22	DW O6	29	DW P6	43a	DW M6	103	DW R6	33
	DW I7	23	DW O7	26	DW P7	45	DW M7	105	DW R7	36
	DW I8	24	DW O8	30	DW P8	46	DW M8	107	DW R8	37
	DW I9	25	DW O9	31	DW P9	47	DW M9	108	DW R9	17
	DW I10	26	DW O10	32	DW P10	48	DW M10	109	DW R10	19
	DW I11	27	DW O11	33	DW P11	49	DW M11	110	DW R11	20
	DW I12	28	DW O12	34	DW P12	43	DW M12	111	DW R12	21
			DW O13	35	DW P13	44	DW M13	112	DW R13	25
			DW O14	36	DW P14	50	DW M14	113	DW R14	26
			DW O15	37	DW P15	51	DW M15	114	DW R15	27
			DW O16	38	DW P16	52	DW M16	115	DW R16	28
					DW P17	53	DW M17	116	DW R17	28a
					DW P18	54	DW M18	117	DW R18	29
					DW P19	55	DW M19	101	DW R19	32
					DW P20	56	DW M20	104	DW R20	30
					DW P21	57	DW M21	106	DW R21	30A
					DW P22	58	DW M22	118	DW R22	31
					DW P23	59	DW M23	119	DW R23	31A
					DW P24	60	DW M24	120	DW R24	34
					DW P25	61	DW M25	121	DW R25	35
					DW P26	62	DW M26	122		
					DW P27	63	DW M27	123		
							DW M28	124		

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
							DW M29	125		
							DW M30	126		
							DW M31	127		
							DW M32	128		
							DW M33	129		
							DW M34	130		
							DW M35	131		
							DW M36	132		
							DW M37	133		
							DW M38	134		
							DW M39	135		
							DW M40	136		
							DW M41	137		
							DW M42	138		
							DW M43	139		
							DW M44	140		
							DW M45	141		
							DW M46	142		
							DW M47	143		
							DW M48	144		
							DW M49	145		
							DW M50	146		
							DW M51	147		
							DW M52	148		
							DW M53	149		
							DW M54	150		
							DW M55	151		
Water Quantity Take and use of Surface Water and Groundwater ²	29		39		64		152		38	
	30		40		65		153		39	
	31		41		66		154		39A	
	32		42		67		155		40	
	33		43		68		156		40A	
	34		44		69		157		40B	
			45		70		158		41	
			46		71		159		41A	
					72		160		42	
					73		161		43	
					74		162			
					75		163			
					76		164			
					77		165			
					78		166			
					79		167			
					80		168			
							169			
							170			
							171			
							172			
							173			
							174			
							175			
							176			
							177			

² Provisions in this section have not been renumbered due to this section being subject to Plan Change 9 (Water Quantity)

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
							178			
							179			
							180			
							181			
							182			
							183			
							184			
							185			
Water Quantity Remainder of Section	WQ I12	35	WQ O12	47	WQ P32	81	WQ M10	186	WQ R13	44
	WQ I13	36	WQ O13	48	WQ P33	82	WQ M11	187	WQ R14	44A
	WQ I14	40	WQ O14	52	WQ P34	83	WQ M12	188	WQ R15	45
	WQ I15	41	WQ O15	53	WQ P35	84	WQ M13	198	WQ R16	46
			WQ O16	54	WQ P36	85	WQ M14	199	WQ R17	46A
					WQ P37	86	WQ M15	200	WQ R18	47
					WQ P38	92			WQ R19	47B
					WQ P39	93			WQ R20	47C
					WQ P40	94			WQ R21	48
					WQ P41	95			WQ R22	50
					WQ P42	96				
					WQ P43	97				
Beds Of Water Bodies	BW I1	42	BW O1	55	BW P1	98	BW M1	201	BW R1	51
	BW I2	43	BW O2	56	BW P2	99	BW M2	202	BW R2	51A
	BW I3	44	BW O3	57	BW P3	100	BW M3	203	BW R3	51B
	BW I4	45	BW O4	58	BW P4	101	BW M4	204	BW R4	51C
	BW I5	46	BW O5	59	BW P5	102	BW M5	205	BW R5	52
	BW I6	47	BW O6	60	BW P6	103	BW M6	206	BW R6	53
			BW O7	61	BW P7	104	BW M7	207	BW R7	54
			BW O8	62	BW P8	105	BW M8	208	BW R8	55
			BW O9	63	BW P9	106	BW M9	209	BW R9	56
			BW O10	64	BW P10	107	BW M10	210	BW R10	56A
					BW P11	108	BW M11	211	BW R11	57
					BW P12	109	BW M12	212	BW R12	58
					BW P13	110	BW M13	213	BW R13	58A
					BW P14	111	BW M14	214	BW R14	58B
					BW P15	112	BW M15	215	BW R15	59
					BW P16	113	BW M16	216	BW R16	59A
					BW P17	114	BW M17	217	BW R17	59B
					BW P18	115	BW M18	218	BW R18	59C
					BW P19	116	BW M19	219	BW R19	59D
					BW P20	117	BW M20	220	BW R20	60
					BW P21	118	BW M21	221	BW R21	60A
							BW M22	222	BW R22	60B
							BW M23	223	BW R23	61
							BW M24	224	BW R24	62
							BW M25	225	BW R25	62A
							BW M26	226	BW R26	63
							BW M27	227	BW R27	64
							BW M28	228	BW R28	64A
							BW M29	229	BW R29	65
							BW M30	230	BW R30	66
							BW M31	231	BW R31	66A
							BW M32	232	BW R32	66B
							BW M33	233	BW R33	67
							BW M34	234	BW R34	68
							BW M35	235	BW R35	69

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
							BW M36	236	BW R36	71
							BW M37	237	BW R37	6
							BW M38	238	BW R38	7
							BW M39	239	BW R39	8
									BW R40	9
Wetlands	WL I1	54	WL O1	73	WL P1	133	WL M1	254	WL R1	78
	WL I2	55	WL O2	74	WL P2	134	WL M2	255	WL R2	79
	WL I3	56	WL O3	75	WL P3	135	WL M3	256	WL R3	80
	WL I4	57	WL O4	76	WL P4	136	WL M4	257	WL R4	81
	WL I5	58			WL P5	137	WL M5	258	WL R5	82
					WL P6	138	WL M6	259	WL R6	83
					WL P7	139	WL M7	260	WL R7	84
					WL P8	140	WL M8	261	WL R8	84A
					WL P9	141	WL M9	262	WL R9	85
					WL P10	142	WL M10	263		
					WL P11	143	WL M11	264		
					WL P12	144	WL M12	265		
							WL M13	266		
							WL M14	267		
							WL M15	268		
							WL M16	269		
							WL M17	270		
							WL M18	271		
							WL M19	272		
							WL M20	273		
							WL M21	274		
							WL M22	275		
Tauranga Harbour			TH O1	18						
Rotorua Lakes			RL O1	11	RL P1	33	RL M1	41	RL R1	11
			RL O2	12			RL M2	42	RL R2	11A
			RL O3	18			RL M3	43	RL R3	11B
							RL M4	52	RL R4	11C
							RL M5	62	RL R5	11D
							RL M6	63	RL R6	11E
							RL M7	69	RL R7	11F
							RL M8	83	RL R8	12
									RL R9	13
Ōhiwa Harbour and Waioatahe			OH O1	18						
East Coast									EC R1	49
Geothermal Resources	GR I1	48	GR O1	65	GR P1	119	GR M1	240	GR R1	72
	GR I2	49	GR O2	66	GR P2	120	GR M2	241	GR R2	73
	GR I3	50	GR O3	67	GR P3	121	GR M3	242	GR R3	74
	GR I4	51	GR O4	68	GR P4	122	GR M4	243	GR R4	75
	GR I5	52	GR O5	69	GR P5	123	GR M5	244	GR R5	75A
	GR I6	53	GR O6	70	GR P6	124	GR M6	245	GR R6	75B
			GR O7	71	GR P7	125	GR M7	246	GR R7	75C
			GR O8	72	GR P8	126	GR M8	247	GR R8	76
					GR P9	127	GR M9	248	GR R9	77
					GR P10	128	GR M10	249	GR R10	77A
					GR P11	129	GR M11	250		
					GR P12	130	GR M12	251		
					GR P13	131	GR M13	252		
					GR P14	132	GR M14	253		
Natural Hazards	NH I1	37	NH O1	49	NH P1	87	NH M1	189	NH R1	70
	NH I2	38	NH O2	50	NH P2	88	NH M2	190	NH R2	70A

Section	Issue	Previous	Objective	Previous	Policy	Previous	Method	Previous	Rule	Previous
	NH I3	39	NH O3	51	NH P3	89	NH M3	191	NH R3	70B
					NH P4	90	NH M4	192		
					NH P5	91	NH M5	193		
							NH M6	194		
							NH M7	195		
							NH M8	196		
							NH M9	197		

Contents

Introduction	1
Citation	1
Scope of Plan	1
Purpose of Plan.....	5
Role of the Bay of Plenty Regional Council under the Act.....	6
Management of Land and Water Resources under the Act	8
Statutory Acknowledgements	9
Use of Guidelines and Standards	10
Sections moved to Appendices	10
He Whakamohiotanga mo te Mahere a Rohe e pa ana ki nga Wai me nga Whenua.....	11

Introduction

Citation

This regional plan may be cited as the Regional Natural Resources Plan, and is referred to as “this regional plan” or “the regional plan” throughout this document. It has been prepared by the Bay of Plenty Regional Council to assist it to carry out its functions in order to achieve the purpose of the Resource Management Act 1991 (‘the Act’).

Any reference in this regional plan to Environment Bay of Plenty is to be read as a reference to the Bay of Plenty Regional Council (Regional Council).

Scope of Plan

Spatial Coverage

The regional plan covers all the area within the Bay of Plenty Regional Council boundary, as seen in Map 1, excluding the Coastal Marine Area. The Bay of Plenty Regional Coastal Environment Plan has defined the boundary between the Coastal Marine Area and the land/freshwater zone. This boundary often extends upstream into the mouths of rivers³.

Resource Coverage

The regional plan covers the following natural and physical resources in the Bay of Plenty:

- (a) Land (including soil);
- (b) Water (including rivers, streams, lakes, wetlands, modified watercourses and groundwater);
- (c) Geothermal resources in the Bay of Plenty, excluding geothermal resources covered by the Rotorua Geothermal Regional Plan⁴; and
- (d) Physical resources associated with the use of water resources (e.g. structures in, on, under or over the bed of a river, stream or lake).

Some areas of brackish water may be included in the resource coverage of this regional plan due to the extent of the spatial coverage.

Issue Coverage

This regional plan addresses issues relating to management of the environmental effects of the use and development of land, water and geothermal resources that are within the scope of the Regional Council’s functions and responsibilities under the Act (refer to Table 1 for an explanation). This regional plan does not include issues that are addressed by the Regional River Gravel Management Plan, or the Rotorua Geothermal Regional Plan. Where the discharge from an on-site effluent treatment system requires a resource consent under the On-Site Effluent Treatment Regional Plan (‘OSET Plan’), the activity will be assessed in accordance with the OSET Plan and the relevant provisions of this regional plan.

³ The Regional Council has detailed maps and descriptions of the agreed river mouths and consequent landward edge of the Coastal Marine Area within the rivers of the Bay of Plenty. These maps and descriptions can be viewed at offices of the Regional Council or in Volume 2: Maps of the Bay of Plenty Regional Coastal Environmental Plan.

⁴ Environment Bay of Plenty, 1999. Rotorua Geothermal Regional Plan.

There are overlaps in resource management requirements between the regional plan and the Regional Plan for the Tarawera River Catchment⁵. Some similar issues are managed in both plans in a complementary way. The Regional Council envisages that eventually the Regional Plan for the Tarawera River Catchment will be merged with the regional plan. In the meantime the requirements of both plans must be met by resource users. Refer to the TW Tarawera section for clarification of which rules take precedence in the Tarawera River Catchment.

The Regional Plan for the Tarawera River Catchment has its own set of water classification standards and criteria but does not classify all water in the Tarawera River Catchment, notably water in drains.

⁵ Environment Bay of Plenty, 2004. Regional Plan for the Tarawera River Catchment.

Map 1 – Bay of Plenty Region



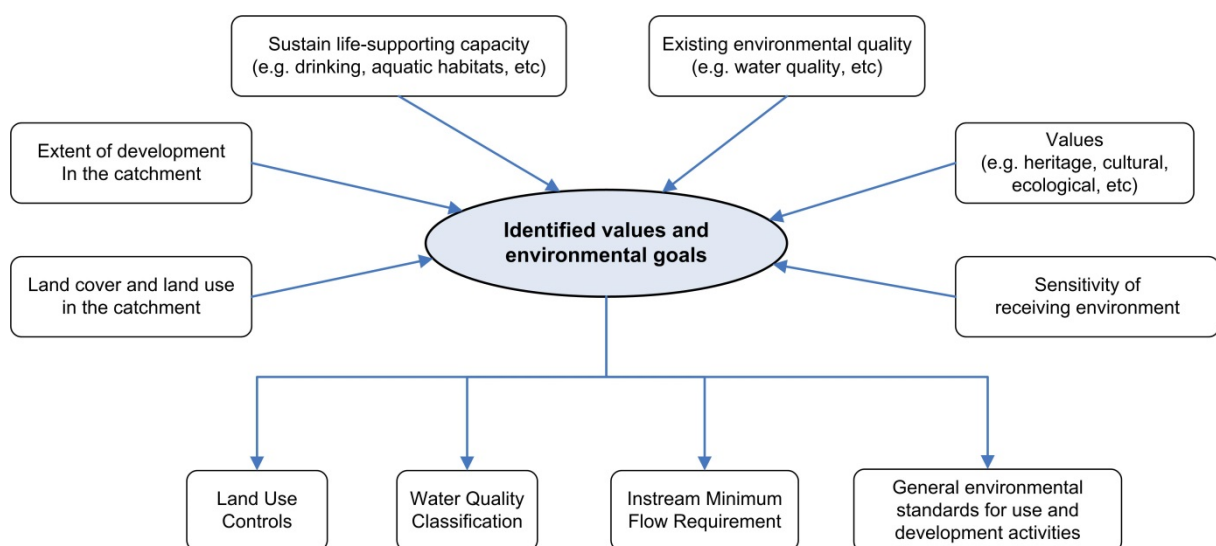
Purpose of Plan

The purpose of this regional plan is to achieve the following aims (refer to Figure 1 for illustration):

- (a) Promote the sustainable management of land, water and geothermal resources.
- (b) Achieve the integrated management of land, water and geothermal resources.
- (c) Maintain or improve environmental quality in the Bay of Plenty region.
- (d) Protect existing high quality environments and resources.
- (e) Protect sensitive receiving environments.
- (f) Sustain the life-supporting capacity of soil, water and ecosystems.
- (g) Maintain or enhance the ecological, Maori cultural, recreational, natural character and landscape values of land, water and geothermal resources.
- (h) Establish appropriate environmental standards to achieve (c) to (f). This includes ensuring instream minimum flow requirements are maintained in rivers and streams.
- (i) Address the adverse environmental effects of the use and development of land, water and geothermal resources.
- (j) Allow for the use and development of land, water and geothermal resources where it is consistent with (a) to (g).
- (k) Enable people and communities to provide for their social, economic and cultural wellbeing, while achieving (a) to (i).
- (l) Work with communities to promote community participation and interest in the management of natural and physical resources in the Bay of Plenty region.

Sections 13, 14 and 15 of the Act require a resource consent for certain activities, unless enabled by a permitted activity rule in a plan (refer to section 1.4 for further information). Many of these activities are unlikely to have adverse environmental effects that are more than minor. Requiring resource consents for such activities is not efficient. The purpose of this regional plan is to provide guidance on how sustainable management of resources is to be achieved in the Bay of Plenty, subject to the requirements of the Act and associated case law, and the Bay of Plenty Regional Policy Statement. A key purpose of this regional plan is to achieve integrated management of the Region's natural and physical resources, provide consistency and certainty in decision-making, and to ensure that there is no unnecessary regulation of activities. No part of this regional plan negates the need to consult with the community in accordance with the requirements of the Act.

Figure 1 *Link between Identified Values and Environmental Standards*



Role of the Bay of Plenty Regional Council under the Act

The functions of regional councils are specified in section 30 of the Act. This gives the Regional Council primary responsibility to control use and development activities for the purposes of soil conservation, maintaining or enhancing water quality, maintaining and enhancing aquatic ecosystems, maintaining water quantity, and avoiding or mitigating natural hazards. Section 13(2)(b) of the Act gives regional councils the ability to control the disturbance, removal, damage or destruction of aquatic plants and the habitats of aquatic plants and animals in the bed of a river or lake. The Regional Council also has obligations to uphold matters specified in Part 2 (section 5 to 8) of the Act. The Act also gives regional councils other environmental management functions, such as monitoring (section 35), development of regional plans (Part 5), resource consents (Part 6), and enforcement (Part 12).

The Act gives priority to the matters in Part 2, and this provides a framework within which all the functions, powers and duties under the Act are enacted. Applying section 5 of the Act involves assessing whether a proposal would promote the sustainable management of natural and physical resources. The social, economic and cultural benefits of a proposed activity are considered relative to sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations, safeguarding the life-supporting capacity of water, soil and ecosystems, and avoiding, remedying or mitigating adverse effects. Each of these sub-sections of section 5 are afforded full significance and applied according to the circumstances of the particular case. These paragraphs provide cumulative safeguards or constraints on use and development activities. Any adverse effects of an activity must be avoided, remedied or mitigated. Some adverse effects (such as minor or temporary) may be considered as acceptable, but need to be considered relative to the individual circumstances of the proposal.

The matters of national importance in section 6 of the Act are sub-ordinate to promoting sustainable management. However, the Regional Council must recognise and provide for such matters where they are relevant to a proposed activity. The Regional Council also has particular regard to the matters in section 7 of the Act. Sections 6 and 7 must be read in the context of Part 2 as a whole. The provisions are applied to achieve the purpose of the Act, but not to take priority over promoting sustainable management as defined in section 5.

Part 3 of the Act describes the duties and restrictions under the Act, which includes section 9 (use of land), section 13 (use of the beds of lakes and rivers), section 14 (restrictions on the use of water), and section 15 (discharges to the environment) that are relevant to this regional plan. Regional Councils can only make rules to avoid, remedy or mitigate adverse effects on the environment related to their core functions (as specified in section 30 of the Act), unless specific powers have been transferred to them by a city or district council under section 33 of the Act. Where a resource consent is required for an activity regulated by a regional rule, the Regional Council considers matters listed in Part 2 of the Act in the following circumstances:

- (a) Discretionary activities – all Part 2 matters are considered.
- (b) Restricted discretionary – Part 2 matters are only considered where the Regional Council has specially retained discretion over the matter.
- (c) Controlled - Part 2 matters are only considered where the Regional Council has specially retained control over the matter.

When considering a resource consent application in relation to (a) to (c) above, and Part 2 matters are considered, the Regional Council can impose conditions relating to those matters where the conditions relate to the proposed activity. Noise can be controlled by conditions in a regional consent in accordance with section 16(2) of the Act.

The authority for modification of archaeological sites and registered waahi tapu is the responsibility of Heritage New Zealand Pouhere Taonga under the Historic Places Act. The Regional Council has responsibility, under Part 2 of the Act, to recognise and provide for these values when assessing discretionary resource consent applications. The Regional Council's functions under the Act are summarised in Table 1.

Table 1 The Bay of Plenty Regional Council's Functions under the Act

Section 30 of the Act	Bay of Plenty Regional Council responsibilities	Other agencies who have responsibilities
Section 30(1)(a) - Integrated management of the natural and physical resources of the region	Objectives, policies and methods in regional plans.	City and District Councils (refer to section 31 of the Act)
Section 30(1)(b) - Actual or potential effects of the use, development, or protection of land which is of regional significance	Objectives, policies and methods in regional plans, but only if the effects of regional significance are identified in the Regional Policy Statement.	
Section 30(1)(c) – Control of the use of land	Objectives, policies, methods and rules in regional plans. Regional Council's control of the use of land is limited to the following, except where a consent is required: <ul style="list-style-type: none"> • Soil conservation. • Maintenance and enhancement of water quality. • Maintenance of water quantity. • Maintenance and enhancement of aquatic ecosystems. • Avoidance or mitigation of natural hazards. Prevention or mitigation of adverse effects from the storage, use, disposal or transportations of hazardous substances.	City and District Councils (refer to section 31 of the Act)
	Regional Councils do not have responsibility to authorise the damage, destruction or modification of archaeological sites and registered waahi tapu.	Heritage New Zealand Pouhere Taonga
Section 30(1)(ca) – The investigation of land for the purposes of identifying and monitoring contaminated land	Objectives, policies, methods and rules in regional plans.	
Section 30(1)(e) – control of water quantity	Objectives, policies, methods and rules in regional plans. This relates to activities specified in section 14 of the Act – take, use, damming, diversion and those in section 30(1)(e) – setting of maximum and minimum water levels or flows, and controlling the range or rate of change of water levels or flows. <p>Regional council permits the use of water relative to the risk on:</p> <ul style="list-style-type: none"> • Soil conservation. • Maintenance and enhancement of water quality. • Maintenance of water quantity. • Maintenance and enhancement of aquatic ecosystems. • Avoidance or mitigation of natural hazards. Part 2 matters are considered when a resource consent is required.	

Section 30 of the Act	Bay of Plenty Regional Council responsibilities	Other agencies who have responsibilities
Section 30(1)(f) – control of discharges to the environment	Objectives, policies, methods and rules in regional plans. This relates to activities specified in section 15 of the Act (discharge of contaminants to water or land, and discharges of water to water). Regional council permits discharges relative to the risk on: <ul style="list-style-type: none"> • Soil conservation. • Maintenance and enhancement of water quality. • Maintenance of water quantity. • Maintenance and enhancement of aquatic ecosystems. • Avoidance or mitigation of natural hazards. Part 2 matters are considered when a resource consent is required.	
Section 30(1)(fa) – allocation of water, heat, energy or the assimilative capacity of air or water.	Objectives, policies, methods and rules in regional plans to allocate any of the following: <ul style="list-style-type: none"> • The taking or use of water (other than open coastal water). • The taking or use of heat or energy from water (other than open coastal water). • The taking or use of heat or energy from the material surrounding geothermal water. • The capacity of air or water to assimilate a discharge of a contaminant. 	
Section 30(1)(g) – control of the introduction or planting of plants into the bed of a river or lake	Objectives, policies and methods in regional plans.	
Section 30(1)(ga) – Maintenance of indigenous biological diversity	Objectives, policies and methods in regional plans.	City and District Councils (refer to section 31 of the Act)
Section 30(1)(gb) – the strategic integration of infrastructure with land use	Objectives, policies, and methods in regional plans.	City and District Councils (refer to section 31 of the Act)
Section 30(1)(h) – any other functions specified in the Act	Objectives, policies and methods in regional plans, particularly in relation to Part 2 matters.	City and District Councils (refer to section 31 of the Act)

Part 2 matters are addressed throughout the regional plan. These provisions will be taken into consideration during the processing of resource consent applications, and implemented as part of non-regulatory activities. Provisions in the Bay of Plenty Regional Policy Statement, the Act, and associated case law are also relevant to resource consent applications.

Management of Land and Water Resources under the Act

Under section 9 of the Act, the use of land is allowed, unless the use is restricted by rules in a regional plan or district plan. This regional plan contains rules to permit land use subject to standard conditions to avoid, remedy or mitigate adverse effects on soil and water resources, and to restrict land use where there is a high risk of adverse effects.

The opposite approach applies to the use of water. Sections 13, 14 and 15 of the Act, restrict the use of water and the beds of rivers, streams and lakes, unless the use is permitted by a rule in a regional plan. This regional plan contains rules to permit the use of water resources where the adverse effects are minor or acceptable, and the risk of adverse effects is low. Other rules are intended to allow the Regional Council to assess the adverse effects of activities on a case by case basis through the resource consent process.

It is recognised that the people and community of the Bay of Plenty region rely on the use and development of water and land resources to provide for their social, economic and cultural wellbeing. The appropriate development and use of natural and physical resources is unlikely to have significant adverse environmental effects nor lessen the capacity of soil and water to sustain life. Appropriate development achieves the sustainable management of natural and physical resources, can increase the capacity of the land to sustain life, promotes the ethic of stewardship, and can maintain or enhance cultural, ecological, natural character and landscape values.

Statutory Acknowledgements

Purpose of Statutory Acknowledgements

A number of Treaty of Waitangi claims within the Bay of Plenty Region have been settled and formalised with special legislation. Such legislation usually includes “statutory acknowledgements”.

A statutory acknowledgement is an acceptance by the Crown incorporated into an Act of Parliament of the statements made by a specified iwi of the particular cultural, spiritual, historical, and traditional association of that iwi with the statutory areas.

Statutory Acknowledgements within the Bay of Plenty Region

There are a number of statutory acknowledgements in the Bay of Plenty Region. From the effective date, relevant consent authorities must attach information recording a statutory acknowledgement to the regional policy statement and to regional and district plans that wholly or partly cover the statutory area⁶. This may be by reference to the relevant statute or by setting out the statutory acknowledgements in full.

As required by the relevant statute of each statutory acknowledgement⁷, information recording each statutory acknowledgement within the Bay of Plenty Region is attached to this regional plan by listing, in Schedule 13, reference to each relevant statute.

Impact of Statutory Acknowledgements

According to the various Acts, the only purposes of the statutory acknowledgements are⁸:

- to require consent authorities, the Environment Court and Heritage New Zealand Pouhere Taonga to have regard to the statutory acknowledgements,

⁶ See, for example, section 45 of the Ngati Awa Claims Settlement Act 2005, section 42 of the Tuwharetoa (Bay of Plenty) Claims Settlement Act 2005, section 65 of the Te Arawa Lakes Settlement Act 2006, and sections 32 and 40 of the Affiliate Te Arawa Iwi and Hapu Claims Settlement Act 2008.

⁷ The full text of statutory acknowledgements applying in the Bay of Plenty Region is also available in a separate document available from the Regional Council and on www.boprc.govt.nz.

⁸ See, for example, section 41 of the Ngati Awa Claims Settlement Act 2005, section 38 of the Tuwharetoa (Bay of Plenty) Claims Settlement Act 2005, section 61 of the Te Arawa Lakes Settlement Act 2006, and sections 28 and 37 of the Affiliate Te Arawa Iwi and Hapu Claims Settlement Act 2008.

- to require relevant consent authorities to forward summaries of resource consent applications for activities within, adjacent to, or impacting directly on relevant statutory areas to the governance entity,
- to enable the governance entity and any member of the relevant iwi to cite a statutory acknowledgement as evidence of the association of the iwi with the area to which the statutory acknowledgement relates,
- to provide a statement by the relevant iwi, for inclusion in a deed of recognition, of the association of that iwi with the relevant statutory area.

From the effective date, relevant consent authorities must have regard to a statutory acknowledgement relating to a statutory area in forming an opinion in accordance with sections 93 to 94C of the Act as to whether the specified iwi governance entity is a person who may be adversely affected by the granting of a resource consent for activities within, adjacent to, or impacting directly on the statutory area. This is in addition to the obligation arising from the second bullet above.

From the effective date, the Environment Court must have regard to a statutory acknowledgement in determining under section 274 of the Act as to whether the specified iwi governance entity is a person having an interest in the proceedings greater than the public generally in respect of an application for a resource consent for activities within, adjacent to, or indirectly on the statutory area.

Use of Guidelines and Standards

This regional plan refers to the use of guidelines and standards as a means of complying with the requirements of the regional plan, in relation to permitted activity rule conditions and when assessing resource consent applications. Guidelines and standards can be used to ensure that adverse effects on the environment are avoided, remedied or mitigated. Relevant national guidelines and standards are applied in this regional plan for consistency with the rest of New Zealand. It is a requirement of this regional plan to apply guidelines or standards where the provision is specifically referenced. For example, Schedule 9 Water Quality Classifications details the use of the ANZECC Guidelines for Fresh and Marine Water Quality, 2000, as it applies to discharges of contaminants to water.

Where new guidelines and standards become available and are relevant to this regional plan, the applicability of the provisions to the Bay of Plenty and compliance with the requirements of this regional plan are assessed according to the following:

- (a) As part of a plan development and review process. A plan change or variation may be initiated where it is necessary to include reference to a guideline or standard, or update the version referred to in a plan.
- (b) During the processing of a resource consent application where the guideline or standard is used by an applicant.
- (c) Guidelines and standards produced by relevant Central Government agencies (i.e. Ministry for the Environment) are applied from the date of publication.

National Environmental Standards for Plantation Forestry

Notwithstanding any other rules in this plan, all plantation forestry activities regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 must comply with those regulations. Where there is conflict or duplication between a rule in this plan and those regulations, the regulations prevail.

Sections moved to Appendices

As a part of the amendment for reformatting, some sections of this regional plan have been removed from the body of the plan into appendices as follows:

Explanation/Principal reasons for provisions	Appendix 1
Financial Contributions	Appendix 2
Information to be submitted with resource consent applications	Appendix 3
Anticipated Environmental Results	Appendix 4
Cross Boundary Issues	Appendix 5
Plan Review Process	Appendix 6

He Whakamohiotanga mo te Mahere a-Rohe e pa ana ki nga Wai me nga Whenua

The following is an overview in Maori of the Introduction section of this regional plan.

He Whakamohiotanga

Nga Kupu Hautoa

Ko nga kupu hautoa mo tenei mahere a-rohe ko te Mahere A-Rohe mo nga Paanga Wai me nga Paanga Whenua, otira e whakahuatia ana ko “tenei mahere a-rohe” ko te “mahere a-rohe” ranei, ki tenei pukapuka. Na te Kaunihera A-Rohe ki Te Moana a Toi te Huatahi (Te Taiao ki Te Moana a Toi) i hanga, hei arataki i ana tikanga, e eke ai ki nga whakarite a te ture e kiia nei ko Te Ture Whakahaere Rawa o te tau 1991.

Koia ra, ki tenei mahere a-rohe, nga whakahua mo Te Taiao ki Te Moana a Toi e orite tonu ana ki te whakahua mo Te Kaunihera A-Rohe ki Te Moana a Toi te Huatahi.

Te Hokai a tenei Mahere

(a) Te Uhitanga a-Takiwa

E uhia ana e tenei Mahere A-Rohe mo nga paanga Wai me nga paanga Whenua, te rohe katoa ki Te Moana a Toi te Huatahi, kua whakaahuatia ake ra ki te Mapi Nama 1, engari kihai e uhia atu ana nga takiwa kei te takutai moana, nga rohe marohitia ana kei raro ke i te Mahere A-Rohe mo nga Waiariki ki Rotorua tirohia te mapi 2, me nga takiwa kei raro ke i te Mahere A-Rohe mo te Awa o Tarawera. Mahere A-Rohe mo te Taiao ki te Takutai Moana, nga whakarite a rohe mo nga rawa ki tera mahere, ara ki te takutai moana, e wehe atu ai mai i era atu o nga rawa, he paanga wai he paanga whenua ranei. Kei etehi o nga awa kua whakakuhutia atu te rohe takutai moana ki runga noa atu mai i te ngutuawa. He maha nga mapi kei a te kaunihera e whakamarama ana i era ahuatanga mo nga awa, e watea mai ana hei matakitaki kei nga tari a te kaunihera, kua kuhuna atu hoki aua mapi ki te pukapuka tuhinga tuarua o Te Mahere A-Rohe mo Te Takutai Moana ki Te Moana a Toi te Huatahi.

(b) Te Uhitanga a-Rawa

Kei tenei Mahere A-Rohe mo nga paanga Wai me nga paanga Whenua nga

(a) Whakarite mo te whenua (otira, ahu atu hoki ki te oneone)

- (b) Nga paanga Wai (otira ki nga awa, nga manga, nga moana nga whenua repo, nga rerenga wai kua keria ke, tae noa ki nga wai maori a Papatuanuku),
- (c) Nga wai Ariki ki Te Moana a Toi te Huatahi nei (kihoi era ki Rotorua, he mahere ki atu ma era).
- (d) Ka uru mai hoki etehi waahi wai kotaitai kua hangaia atu ki nga awa, ki nga manga, ki nga moana ranei.

(c) Te Uhitanga a-Take

Kei tenei mahere a-rohe nga korero mo nga whakahaere ki te Taiao, e pa ana ki nga whanaketanga a nga rawa, paanga whenua, paanga wai me nga paanga wai ariki, e uru mai ana ki te hokai a te kaunihera i raro i te ture ra, te Ture Whakahaere Rawa o te tau 1991 (kei te Whakaaturanga Nama 3 a nga Whakamarama). Kihai tenei mahere e aro atu ana ki nga take he mahere ke atu ano, ara ki te Mahere a-Rohe mo te Whakahaere Kohatu ki nga Awa, ahakoa ano he wahanga kua inakatia e tenei mahere me te mahere a-Rohe ma Nga Kura Paru.

Te Tatai a tenei Mahere

Ko te tatai a tenei mahere a-rohe, he whakaeke ki nga whakarite e whai ake nei (tirohia atu te Whakahua Nama 1, mo nga whakaatatanga):

- (a) Ko te hapai i nga whakahaere katoa e u ai a tatau paanga whenua, a tatau paanga wai me a tatau paanga wai ariki hoki.
- (b) E haere ngatahi ai nga whakahaere mo nga paanga whenua, nga paanga wai me nga paanga wai Ariki.
- (c) E hapaitia ai, e piki ake ai ranei te painga a-taiao ki te rohe o Te Moana a Toi.
- (d) E tiakina ai nga tino painga ake a te taiao me ona rawa.
- (e) E tiakina ai nga waahi whiwhinga tutohutanga ki te taiao.
- (f) E tokona ana te mauri a te oneone, a te wai me nga punaha potapotae.
- (g) E hapaitia ai, e piki ake ai ranei nga paanga whenua, nga paanga wai me nga paanga wai ariki hoki.
- (h) Ki te whakau i nga tohu a-taiao e totika ana, e eke noa ai nga whakarite kua rarangitia ake nei, ara mai i te (c) ki te (f) tae noa atu ki te rere a te wai ki nga awa me nga manga.
- (i) Kia arotia atu ai nga mahi tukino ki te taiao i roto i nga whakamahi, i nga whanaketanga ranei a nga rawa whenua, a nga rawa wai, a nga rawa waiariki.
- (j) Kia ngawari ake nga ahuatanga ki nga whakamahi, ki nga whanaketanga ranei a nga rawa whenua, a nga rawa wai, a nga rawa waiariki pena e orite ana ki nga whakahua (a) ki te (g) kua rarangitia ake nei.
- (k) E ahei ai nga tangata katoa ki te hapai i o ratou tumanako katoa, e eke ai hoki nga whakarite rangi (a) ki (i).
- (l) E mati ngatahi katoa ai Tatau katea, e totika ai te whakahaere i a tatau rawa katoa ki te moana a Toi.

Nga Whakahaere mo nga paanga Whenua me nga paanga Wai i raro i Te Ture Whakahaere Rawa o te tau 1991

Kei te Tekihana nama 9 o te Ture Whakahaere Rawa o te tau 1991 te ki e whakaaetia noa ana nga whakamahi whenua, pena kihai era momo whakamahi e whakatikitia ana e nga whakataunga kei nga mahere a-rohe, kei nga mahere a-takiwa ranei. Kei tenei mahere a-rohe nga whakataunga e whakaaetia ana nga whakamahi whenua, pena e whaia ana nga tikanga takoto, e kore ai e tukinotia nga paanga oneone me nga paanga wai, otira, e whakatikitia hoki era momo whakamahi whenua e tino tupono ana ka tukinotia, me

He kaupapa ke atu ano ta te Ture Whakahaere Rawa o te tau 1991 mo nga whakamahi a nga paanga wai. Kei nga Tekihana nama 13, 14 me 15 e whakatikina ana nga whakamahi, ki nga paanga wai, ki nga kukupango a nga awa, me nga manga, me nga roto, engari e whakaaetia ana ranei tera whakamahinga e te tahi whakataunga kei te tahi mahere a-rohe. He whakataunga kei tenei mahere a-rohe, se whakaaetia ai nga whakamahinga a nga rawa paanga wai pena e iti noa ana nga tukinotanga, e iti noa ana ranei nga tuponotanga tukino. He whakataunga atu ano hoki era, na te mea e ahei ai te kaunihera a-rohe ki te arotake i nga tukinotanga kei ia momo whakahaere, i te wa e whakamanatia ana te whakaaetanga tuku rawa ma tera take.

Contents

KT Kaitiakitanga	1
Issues	4
Objectives.....	6
Policies.....	7
Methods of Implementation.....	8

KT Kaitiakitanga

“Whatungarongaro te tangata, toitu te whenua”

Koia nei te pepeha e whakahuatia ake ai nga tikanga a te Maori ki ona whenua. Mai i nehe ra ano, ko te mea nui ki a ia ko te tiaki pumau i te whenua, e kore ranei e tukinotia, tae noa ki te wa e heke iho ai ki ona uri, ki nga whakatipuranga e whai ake ana, i muri iho i a ia. Ko nga whakarite o te kaitiakitanga, he taonga tuku iho. Kua korerotia te korero, kua wanangatia te wananga. Heoi ano, ko te mahi i naianei he whakarangiri i aua korero, e marama ai ki a tatau katoa. He mahi uaua tonu, engari ko a koutou pononga ki te kaunihera enei e ngana nei ki te whakatutuki i te kaupapa. Ko te tumanako, kei kona koutou e te iwi hei whakatikatika mai, e tau ai te puehu, e whakaae ai tatou katoa. Tihe mauri ora.

Explanation: The above statement quotes the Maori aphorism “Mankind perishes, the land remains eternal” as this epitomises Maori beliefs on kaitiakitanga or guardianship of the land and its resources. Furthermore Maori concern is to avoid insensitive and squanderous exploitation so that the land can be passed on to future generations in a sound and healthy condition. The statement also notes that much discussion and debate has taken place and then suggests that what is now required is a detailed inventory of the outcomes from those talks for our enlightenment. The report concedes that the task is onerous and that the Regional Council staff have worked conscientiously to complete the assignment. Final sentence requests that iwi interests advise the Regional Council of any corrections so that a consensus may be reached.

Practices or tikanga were developed over many generations to maintain the mauri of all parts of the natural world. These tikanga evolved into the ethic and exercise of kaitiakitanga or guardianship of their resources that they will pass on to future generations. These responsibilities include but are not limited to the principles contained within Article II of the Treaty of Waitangi.

Kaitiakitanga is a term now in general use to denote the practice of guardianship of natural and physical resources by tangata whenua (see Definition of Terms).

The practices of ‘guardianship’ can be applied in different ways by different iwi and tribal groups in the Bay of Plenty region.

In some instances the term kaitiakitanga itself will not accurately describe the practices of some iwi and tribal groups. Some Te Arawa groups, for example, consider the term ‘tiakitanga’ to be more accurate as they perceive the inclusion of the prefix ‘kai’ to refer specifically to the management of food resources only, whereas many other iwi consider that prefix to be an indicator of the ‘doer’ of the work. For Te Arawa people, the preferred term ‘nga tangata tiaki’ identifies those people appointed as guardians of natural and physical resources within their tribal rohe.

The term ‘nga tangata pukenga’ is used to identify those Maori people acknowledged by their iwi and tribal group as being people with the mana and capacity to understand, appreciate and identify cultural and historical qualities of significance, in accord with the tikanga and kawa of their people.

The role and responsibilities of kaitiaki are wide and varied, are tangible and intangible and all are based on Maori lore relevant to particular Maori groups [iwi, hapu, whanau] and their resources. It is the sole prerogative of each Maori group to determine their role and responsibilities as kaitiaki, and their interpretation of the concept of mauri. These roles, responsibilities and interpretations cannot be defined by any other persons, rather they need to be determined by the group according to their values and the circumstances of each case.

It is important to clarify this with the kaitiaki who claim the role in each rohe. There may also be other valid claimants who need to be recognised.

The traditional knowledge that has been handed down from generation to generation provides the power or authority to sustain the mauri in relation to resources within the rohe of Maori groups [tangata whenua].

Broadly speaking kaitiakitanga involves a wide set of practices based on a world and regional environmental view. The root word is *tiaki* that includes the ideas and principles of:

- (a) Guardianship.
- (b) Care.
- (c) Wise management.
- (d) Resource indicators, where resources themselves indicate the state of their own mauri.
- (e) Maintenance of spiritual and cultural aspects of the natural and physical resources.
- (f) Protection of mauri.
- (g) Enhancement of mauri.
- (h) Restoration of mauri.
- (i) Appropriate development of resources where necessary.

Kaitiakitanga of natural and physical resources is not confined to the mere protection of those resources from damage, destruction, modification and development. Maori believe that within their rohe they are empowered with the responsibility of ensuring that the spiritual and cultural aspects are maintained for the future, for the benefit of all the people of New Zealand. This relationship of Maori and their culture and traditions with their ancestral lands, waters, sites, waahi tapu and other taonga is a matter of national importance.

Kaitiakitanga has a variety of applications including, but not limited to:

- (a) The protection and maintenance of waahi tapu and other areas of special significance.
- (b) The placing of rahui to allow replenishment of traditional kaimoana, mahinga mataitai, or for use at times of disasters, drowning and pollution of food sources.
- (c) Directing development to ways that do not negatively compromise the mauri of the resource.
- (d) Observing tikanga associated with traditional activities such as prayer, ceremony and ritual.
- (e) Active opposition to developments with actual or potential adverse effects on resources, taonga, mauri and Maori cultural relationships.
- (f) Consultation.
- (g) Monitoring resource indicators, where resources indicate the state of the mauri.
- (h) Physical restoration and enhancement of resources to rejuvenate and improve the mauri of the resource.
- (i) Lodging claims against Crown actions that have adversely affected the mana of Maori.
- (j) Celebrating places by teaching future generations about the special Maori values associated with them.
- (k) Enhancing the natural world by teaching future generations about the special (Maori) values associated with them.

Mauri is the life force present in all animate and inanimate objects. The mauri binds one resource to every other element in a natural order, both physical and spiritual. It provides Maori a series of formal relationships, which, when recognised in practice and prayer ensures physical and spiritual integrity of the environment for future generations. Mauri may be described as the cornerstone of Maori cosmology. Maori believe it is the vital essence or life force by which all things cohere in nature. When mauri is absent there is no life. Of all taonga tuku iho,

mauri is the most precious. Mauri provides unity between the natural order and the spirituality of the gods, and also by providing a series of formal relationships to ensure the physical and spiritual integrity of the environment for future generations. While mauri has a spiritual basis, it also leads to practical application of traditional resource management (kaitiakitanga) by ensuring that the environment is maintained in its natural condition. Kaitiaki are responsible for the mauri of their rohe. Failure of the iwi or hapu to protect, restore, maintain and enhance mauri through the practice of kaitiakitanga has the potential to adversely affect the relationship of the iwi or hapu with their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, and the mana of the iwi or hapu in general.

Practices or tikanga were developed and observed to maintain the mauri of parts of the natural world. Observing these tikanga evolved into the ethic and exercise of kaitiakitanga.

The complex sets of tikanga were developed in relation to specific resources in the domain of atua, recognised the combination of fundamental primary dimensions:

- Taha tinana - physical and economic significance
- Taha hinengaro - intellectual significance
- Taha wairua - spiritual significance
- Taha whanaunga - social and cultural significance

Commonly recognised parts of the Maori resource management system are the practices associated with tapu (sacrosanct), rahui (moratorium), whakanoa (secularise), whakawaatea (liberate) and a whole range of tikanga (practices) specific to particular resources including but not limited to, harakeke (flax), tuna (eel), ika (fish), waimaori (fresh water), waitai (salt water) and whenua (land) including sand, stones, rocks, soil, minerals, metals, geothermal resources and any other physical and or natural resource, including air.

The appropriate development and use of land does not cause damage to mauri nor lessen the capacity of the land to sustain life. The appropriate development of land causes an increase in the capacity of the land to sustain life, creates a healthy relationship between land 'owner' and the land, and strengthens the mauri of the land by increasing the lands capacity to sustain not only itself but other creatures, including man. Appropriate development of land guarantees the sustainable management of land as a natural and physical resource but also preserves, protects, recognises and strengthens the cultural and spiritual aspects of the land as well⁹.

Specific water, land and geothermal resource management issues that are also of concern to Maori are addressed in the chapters relating to the topic. For example, concerns about stormwater discharges are addressed in the Discharges to Water and Land chapter - Discharges of Stormwater section. This is to integrate cultural aspects into wider resource management decisions and practices.

In this chapter the phrase 'water, land and geothermal resources' is inclusive of all related resources, cultural sites and taonga. 'Water' includes the beds of rivers and lakes, gravel, wetlands, water quality and quantity, aquatic habitats, and other heritage values. 'Geothermal' refers to surface features and underground systems.

⁹ Love, Morris Te Whiti, Tikitu Tutua-Nathan, Mike Barns, Tamati Kruger, 1993. Ngaa Tikanga Tiaki I Te Taiao: Maori Environmental Management in the Bay of Plenty. Report for Bay of Plenty Regional Council.

Kaitiakitanga

Issues

- KT I1 (Issue 1) **There is a significant gap in understanding between tangata whenua claim of rangatiratanga of land, water and geothermal resources, and the role of the Crown and regional council in the management of those resources, particularly water.**

Issues relating to the ownership, possession and management of land, water and geothermal resources are still to be resolved between iwi/hapu and the Crown. The Crown, under the Act, has made regional councils responsible for the management of land, water and geothermal resources. These responsibilities, including the control of the use of land for the purpose of soil conservation, the maintenance and enhancement of water quality, and maintenance of water quantity, is irrespective of the ownership of water and land. Resolving issues of 'ownership' of natural and physical resources are matters to be dealt with by Maori and the Crown through processes established to resolve Treaty of Waitangi claims and administered by the Waitangi Tribunal.

Ownership of resources is an important issue to Maori, but it is not an issue that can be addressed in the regional plan as it is outside the scope of the Act, the regional plan, and the functions of the Regional Council. The Regional Council is relying on the Crown to resolve Treaty of Waitangi claims and issues relating to the ownership of resources.

- KT I2 (Issue 2) **The extent to which tangata whenua seek to assume the management of water, land and geothermal resources, and other taonga, within their tribal rohe has yet to be described or achieved.**

Tangata whenua believe they are entitled to actively participate in effective management and control of water, land and geothermal resources and taonga within their tribal rohe, alongside local and regional authorities. They have asserted that active participation includes managing and monitoring river gravel, the beds of rivers and lakes, land, water and geothermal resources.

Objective KT O1, KT O2
Policy KT P1, KT P2, KT P3, KT P4
Method KT M1, KT M2, KT M3, KT M4, KT M6, KT M7, KT M8, KT M9, KT M11, KT M12, KT M15, KT M18, KT M19, KT M20

- KT I3 (Issue 3) **The role of tangata whenua as kaitiaki of water, land and geothermal resources is given token regard or not being recognised at all.**

Objective KT O2
Policy KT P4, KT P7, KT P8, KT P9, KT P12
Method KT M1, KT M2, KT M3, KT M4, KT M5, KT M6, KT M7, KT M11, KT M12, KT M20, KT M21, KT M22, KT M23

- KT I4 (Issue 4) **Tangata whenua may feel their concerns about water, land and geothermal resources are not fully addressed or considered during resource management decisions.**

Iwi and hapu believe they are entitled to have input into the planning process and decision-making on consent applications to ensure taonga and water, land and geothermal resources are sustainably managed for future generations.

Objective KT O2, KTO4
Policy KT P5, KT P6
Method KT M1, KT M11, KT M19

- KT 15 (Issue 5) **Consultation with tangata whenua on water, land and geothermal issues may not be occurring to the extent tangata whenua consider necessary to recognise and provide for the status Maori have under the Act.**
- The principles of consultation have been established through case law and various government publications. Such principles include, but are not limited to, a genuine invitation to give advice and genuine consideration of the advice given, and the provision of information and time for the consulted party to be adequately informed, appraise the information and make useful responses.
- Objective* KT O3
Policy KT P13, KT P14, KT P15
Method KT M9, KT M10, KT M12, KT M13, KT M14, KT M18, KT M19
- KT 16 (Issue 6) **Resource management processes and decisions may not recognise that water, land and geothermal issues of concern to tangata whenua may be different between individual iwi and hapu.**
- Objective* KT O4
Policy KT P15, KT P16
Method KT M7, KT M11, KT M13, KT M19
- KT 17 (Issue 7) **Iwi/hapu resource management planning documents may not be recognised in resource management decisions.**
- Objective* KT O5
Policy KT P17
Method KT M12
- KT 18 (Issue 8) **The mauri of water, land and geothermal resources has been degraded, and needs to be protected and restored.**
- The mauri of most water, land and geothermal resources has been affected by human activity and degraded to some degree. The mauri of some rivers, areas of land, or geothermal resources has been affected to a lesser extent, while in other cases it may not be possible to restore the mauri of water, land or geothermal resources due to contamination. Mauri can be adversely affected by inappropriate use and development, which in turn, has potential to adversely affect the relationship of Maori with their culture, tradition, ancestral lands, taonga and resources. However, positive effects created by for example, improved water quality may, in fact, restore or enhance mauri.
- Objective* KT O6
Policy KT P11
Method KT M7, KT M16, KT M17, KT M22
- KT 19 (Issue 9) **Waahi tapu and taonga, and sites of traditional cultural activities are being damaged or destroyed by use and development activities.**
- Significant Maori cultural sites, waahi tapu (sacred sites), heritage sites, spiritual values and taonga may be damaged or destroyed by inappropriate activities on land, in the beds of surface water bodies, or the inappropriate development of geothermal resources. Waahi tapu areas are of value for oranga (healing), horohoroi (cleansing and purification rites), and tohi (baptism). The protection of Maori culture and heritage forms one of the key areas of concern to iwi, including the protection of ancestral lands, water, sites, waahi tapu, and other taonga (including geothermal features).
- Tangata whenua have traditional uses associated with land, rivers, lakes, streams, wetlands and geothermal features, including mahinga kai (food gathering), wai kaukau (bathing sites), and wai tohi (baptism sites). Lakes and rivers provide food resources (tuna [eel], kakahi [freshwater mussels], koura [freshwater crayfish] and

inanga [whitebait] amongst others), wai inu (drinking water), and taiapure (seafood reserves). Native vegetation provides material for rongoa (natural remedies and medicines).

Objective *KT O7*
Policy *KT P10, KT P13, KT P18, KT P19, KT P20*
Method *KT M3, KT M5, KT M13, KT M14, KT M18, KT M20, KT M21, KT M46*

Objectives

- KT O1 (Objective 1) The principles of the Treaty of Waitangi (Te Tiriti o Waitangi) are recognised and taken into account in the management of water, land and geothermal resources.
- KT O2 (Objective 2) The Regional Council to cultivate partnership protocols with tangata whenua to:
- (a) Have particular regard to the role of kaitiaki and Nga Tangata Pukenga in the management of water, land and geothermal resources.
 - (b) Achieve the integrated management of land, water and geothermal resources.
- KT O3 (Objective 3) Consultation with tangata whenua that recognises their societal structures, practices, protocols, and procedures, and status under the Act.
- KT O4 (Objective 4) The water, land and geothermal concerns of tangata whenua are taken into account and addressed as part of resource management processes, while recognising that different iwi and hapu may have different concerns or practices.
- KT O5 (Objective 5) Water, land and geothermal resource management decisions have regard to iwi resource management planning documents.
- KT O6 (Objective 6) Maintain the biological and physical aspects of the mauri of water, land and geothermal resources; and where practicable achieve the ongoing improvement of the biological and physical aspects of the mauri where it has been degraded, as it relates to:
- (a) Water quality meeting the specified water quality classifications.
 - (b) Water flows not breaching the instream minimum flow requirements.
 - (c) The life-supporting capacity of soils are sustained.
 - (d) Protection of geothermal surface features identified by, and of special value to tangata whenua.
- KT O7 (Objective 7) The extent of the spiritual, cultural and historical values of water, land and geothermal resources (including waahi tapu, taonga and sites of traditional activities) to tangata whenua are identified.

Cross-Reference Also refer to LM O4.

Policies

KT P1 (Policy 1)	To recognise that tangata whenua, as indigenous peoples, have rights protected by the Treaty of Waitangi (Te Tiriti o Waitangi) and that consequently the Act accords Maori a status distinct from that of interest groups and members of the public.
KT P2 (Policy 2)	To take into account the principles of the Treaty of Waitangi in the management of land, water and geothermal resources.
KT P3 (Policy 3)	To encourage tangata whenua to identify their particular requirements to address sections 6(e), 7(a) and 8 of the Act, in relation to their ancestral lands (rohe), sites or resources, and mauri.
KT P4 (Policy 4)	To actively develop an integrated water, land and geothermal resource management regime and effective working relationships, between councils and tangata whenua.
KT P5 (Policy 5)	To ensure that resource management issues of concern to tangata whenua are taken into account and addressed, where these concerns are relevant and within the functions of the Regional Council.
KT P6 (Policy 6)	To promote greater understanding by tangata whenua of the water, land and geothermal resource management responsibilities that are within the functional jurisdiction of the Regional Council.
KT P7 (Policy 7)	To make provision for kaitiaki to manage their ancestral land, water, and geothermal resources where this is consistent with the Act.
KT P8 (Policy 8)	To recognise that kaitiakitanga involves both: <ul style="list-style-type: none"> (a) The use and development of land, water and geothermal resources by tangata whenua, and (b) The protection of taonga, waahi tapu, significant sites, traditional use sites, and other natural and physical resources of importance to tangata whenua.
KT P9 (Policy 9)	To have particular regard to kaitiakitanga, including customary use and management practices relating to water, land and geothermal resources, including mahinga kai whenua and mahinga kai awa, waahi tapu and taonga raranga, in accordance with tikanga Maori, and the mana and responsibilities of Nga Tangata Pukenga, where this is consistent with the Act.
KT P10 (Policy 10)	To identify the extent of cultural values associated with rivers, streams, lakes, wetlands, geothermal resources and land, where this is considered appropriate by tangata whenua.
KT P11 (Policy 11)	To recognise and provide for the mauri of water, land and geothermal resources when assessing resource consent applications.
KT P12 (Policy 12)	To use the Ministry for the Environment's Maori environmental performance indicators as part of the Regional Council's environmental monitoring programmes, while recognising that there are different applications and interpretations of traditional Maori water categories between individual iwi and hapu in the region.

KT P13 (Policy 13)	To advise and encourage resource consent applicants to consult directly with tangata whenua where it is necessary to identify the relationships of Maori and their culture and traditions with their ancestral lands, waters, sites, waahi tapu and other taonga, and the actual and potential adverse effects of proposed activities on that relationship.
KT P14 (Policy 14)	To consult tangata whenua on water, land and geothermal resource management issues according to the requirements of the Act, tikanga Maori methods of consultation, and in a manner consistent with case law.
KT P15 (Policy 15)	To consult all appropriate tangata whenua holding mana whenua in circumstances where rohe (tribal boundaries), or areas of ancestral or historic interest overlap.
KT P16 (Policy 16)	To recognise that different iwi and hapu may have different water, land and geothermal resource management concerns, practices and management methods.
KT P17 (Policy 17)	To: <ul style="list-style-type: none"> (a) Take into account iwi resource management planning documents, when preparing or changing a regional plan, where such documents exist. (b) Have regard to iwi resource management planning documents when considering resource consent applications, where such documents exist.
KT P18 (Policy 18)	To avoid, remedy or mitigate adverse effects on water, land and geothermal resources or sites of spiritual, cultural or historical significance to tangata whenua, where these resources and sites have been identified by tangata whenua.
KT P19 (Policy 19)	To encourage tangata whenua to recommend appropriate measures to avoid, remedy or mitigate the adverse environmental effects of the use and development of water, land and geothermal resources.
KT P20 (Policy 20)	To assess effects of proposed development activities on the cultural and historic values and sites of water, land and geothermal resources in consultation with tangata whenua.
<u>Cross-Reference</u>	Also refer to DW P5.

Methods of Implementation

The Regional Council will:

Working with other Resource Management Agencies and the Community

KT M1 (Method 1)	Work with iwi and hapu to educate and share information about each other's processes and practices.
KT M2 (Method 2)	Facilitate a process with iwi and hapu and resource management agencies to discuss the ability of tangata whenua to access, use and enjoy their ancestral taonga within the Act framework.
KT M3 (Method 3)	Work with iwi and hapu, the city council and district councils as part of an ongoing process to map areas of significance to tangata whenua, where this is deemed appropriate by tangata whenua, and in relation to KT M7.
KT M4 (Method 4)	In conjunction with tangata whenua, the city council and district councils develop methods to maintain or improve the mauri of water, land and geothermal resources through the appropriate management of water quality, water quantity, land use and management practices, and geothermal resources.
KT M5 (Method 5)	Consider the transfer of water, land and geothermal resource management functions, duties or powers to iwi authorities where this is appropriate to the circumstances, subject to the requirements of section 33 of the Act.

Advocacy

- KT M6 (Method 6) Encourage iwi to develop resource management planning documents that contain:
- (a) Specific requirements to address the management of water, land and geothermal resources, including mauri, and in relation to section 6(e), 7(a) and 8 of the Act.
 - (b) Protocols to give effect to their role of kaitiaki of water, land and geothermal resources.
 - (c) Instructions or protocols describing how the document is to be used, including how it is to be used by the Regional Council and the community.

Works and Services provided by the Regional Council

- KT M7 (Method 7) Facilitate the development of an appropriate and secure system for the release by tangata whenua of culturally sensitive information, including the location of significant sites, taonga and significant cultural values of water, land and geothermal water resources, to the Regional Council.
- KT M8 (Method 8) Develop and implement procedures with iwi and hapu to take into account the principles of the Treaty of Waitangi. Such procedures will be periodically updated to recognise that principles evolve through processes such as case law, negotiation and the development of memoranda of understanding and co-management agreements.
- KT M9 (Method 9) Develop procedures in accordance with tikanga Maori to facilitate effective consultation with tangata whenua about proposals for the use or development of water, land and geothermal resources. This may be according to processes defined in iwi management planning documents, where appropriate.
- KT M10 (Method 10) Continue to maintain and make available a database that contains a register of:
- (a) Contact persons for tribal federations, iwi authorities, tribal runanga, hapu or whanau of the region to assist applicants in their consultation with tangata whenua.
 - (b) Kaitiaki of water, land and geothermal resources.
 - (c) Iwi resource management documents.
 - (d) Agreements between the Regional Council and iwi or hapu.

Note: Resource consent applicants should understand that the Regional Council can only provide initial contact details.

- KT M10 (Method 11) Develop and implement procedures to ensure that water, land and geothermal resource management concerns of tangata whenua are taken into account and addressed by appropriate means, where the concerns are relevant to the planning document or resource consent application being addressed, and are within the functions of the Regional Council. This may include, but not be limited to, co-management protocols and memoranda of understanding.
- KT M12 (Method 12) Develop guidelines for resource consent applicants to assist consultation with tangata whenua. The guidelines will include, but not be limited to, matters to ensure compliance with the requirements of the Act, and assessment criteria to determine adequacy of consultation.

Matters Relevant to Resource Consent Applications and Processing

KT M13 (Method 13)	Have regard to any relevant iwi resource management strategies or plans when considering applications for resource consents under this regional plan.
KT M14 (Method 14)	Consult tangata whenua through tribal federations, iwi authorities, tribal runanga, hapu or whanau, as appropriate to the issue.
KT M15 (Method 15)	Consult with tangata whenua at hui held at marae where this is possible, practicable, appropriate to the scale of the issue, and agreed to between parties. Alternative venues and processes may be used where agreed to by the parties involved.
KT M16 (Method 16)	Consider the appointment of people (Nga Tangata Pukenga) with recognised expertise in tikanga Maori to hearing committees whenever matters of water, land or geothermal resource management significance to tangata whenua are being considered.
KT M17 (Method 17)	<p>When assessing resource consent applications, recognise and provide for the effects on the mauri of the receiving environment. Indicators that the activity will affect the mauri may include:</p> <ul style="list-style-type: none"> (a) Direct discharges of human or animal faecal matter and contaminants to water. (b) Adverse effects on water quality relative to the Water Quality Classification of the receiving water body. (c) The activity is inappropriate in relation to the cultural sensitivity of the location. (d) There is a mixing of waters from different catchments. (e) Adverse effects or changes to the natural water cycle. (f) Adverse effects on the state of the water body, including natural processes and heritage values.
KT M18 (Method 18)	<p>Maintain, and where practicable improve the mauri of water, land and geothermal resources by using a range of mechanisms, including resource consent conditions to ensure:</p> <ul style="list-style-type: none"> (a) Water quality meets the specified water quality classifications. (b) Water flows do not breach the instream minimum flow requirements. (c) The life-supporting capacity of soil is sustained. (d) Geothermal surface features identified by, and of special value to tangata whenua are protected.
KT M19 (Method 19)	Advise and encourage resource consent applicants to consult directly with tangata whenua where this is appropriate to the proposed activity.
KT M20 (Method 20)	Where appropriate to the scale and magnitude of effects, or location of the activity, require resource consent applicants to supply a record of consultation with all tangata whenua who are affected by the proposed activity.
KT M21 (Method 21)	Avoid, remedy or mitigate adverse effects on those characteristics, sites, features, resources or attributes of water, land and geothermal resources that are of significant cultural value or special significance to tangata whenua, where these are known. This applies to the community when planning use and development activities, and to the Regional Council when considering resource consent applications.

KT M22 (Method 22) Encourage tangata whenua to recommend appropriate measures to avoid, remedy or mitigate adverse environmental effects on cultural values, resources or sites, from the use and development activities as part of consultation for resource consent applications.

Cross-Reference Also refer to IM M6.

Monitoring and Investigation of the Environment

KT M23 (Method 23) Support the establishment and maintenance of a community-based state of the environment monitoring programme that involves tangata whenua in their role as kaitiaki, using the Ministry for the Environment's Maori environmental performance indicators, matauranga Maori, and other relevant initiatives.

Cross-Reference Also refer to WQ M10.

Explanation/Principal Reasons

The objectives, policies and methods in this section are necessary to address the Regional Council's obligations in relation to sections 6(e), 7(a) and 8 of the Act. The provisions are consistent with the Act (including sections 8 and 104) recent case law, *Ngaa Tikanga Tiaki I Te Taiao*¹⁰ report, and Whanganui River Report by the Waitangi Tribunal (1999)¹¹. The regional plan defers to, and is consistent with, and implements the provisions of the Bay of Plenty Regional Policy Statement.

The policies and methods are to provide a framework within which particular agreements with individual iwi or hapu can be made. This flexibility recognises current dynamic processes due, in part to the ongoing settlement of Treaty of Waitangi claims, and the development of iwi or hapu resource management plans. This is to allow for the ongoing evolution of relationships, understandings, processes and agreements. With regards to KT M5, there are restrictions to the transfer of functions specified in section 33 of the Act, and any transfer is subject to consultation with the community (a requirement of the Local Government Act 2002).

Implementation of the policies and methods in this section of the regional plan will be achieved through a process to contact each iwi and hapu in the region to initiate discussion on the development of individual agreements, and promote the development of iwi or hapu resource management documents. The Maori Regional Representative Committees and the Maori Standing Committee will be involved in this process. The Regional Council also has internal procedures that will assist the implementation of the methods such as KT M13, KT M17, KT M19, KT M20 and KT M21.

The Criteria for Assessing Specified Matters in the Bay of Plenty Region and associated processes promulgated in relation to the Bay of Plenty Regional Policy Statement will be used to assess the values of an activity site when a resource consent application is made under a discretionary rule in this regional plan. This is consistent with the requirements of section 104 of the Act. Table 1 describes the Regional Council's responsibilities for heritage matters in relation to this regional plan.

¹⁰ Love, Morris Te Whiti, Tikitu Tutua-Nathan, Mike Barns, Tamati Kruger, 1993. *Ngaa Tikanga Tiaki I Te Taiao*: Maori Environmental Management in the Bay of Plenty. Report for Bay of Plenty Regional Council.

¹¹ Waitangi Tribunal, 1999. *The Whanganui River Report (Wai 167)*. GP Publications, Wellington.

KT M23 is intended to encourage community groups such as iwi and hapu to establish state of the environment-type environmental monitoring projects, similar to the current Stream Sense programme. This links to one aspect of the Ministry for the Environment's Environmental Performance Indicators programme. The gathering of information will allow tangata whenua to assess the condition of the environment within their rohe, and is a practical expression of Kaitiakitanga.

KT P10 will be implemented by:

- (a) The Regional Council in relation to KT M3, KT M7, KT M22, and NH M2;
- (b) Iwi in relation to KT M6; and
- (c) Resource consent applicants in relation to KT M13 (where applicable), KT M14, KT M20 and KT M21.

Contents

IM Integrated Management of Land and Water	1
Issues	1
Objectives	4
Policies	5
Methods of Implementation	6

IM Integrated Management of Land and Water

The objectives, policies and methods in this section only apply to water and land resources in the region and exclude geothermal resources, which are addressed by provisions in the geothermal chapter of this regional plan, and the Operative Rotorua Geothermal Regional Plan.

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

Integrated Management of Land and Water

Issues

IM I1 (Issue 11) **The concept and implementation of stewardship is not universally shared by all resource users, which can result in inappropriate land use practices.**

It is recognised that stewardship is an important concept to all New Zealanders who possess a sense of belonging, and a close relationship or association with land and other natural resources. Stewardship is akin to the Maori concept of kaitiakitanga. Many resource users and landowners have adopted good environmental management practices, and are pro-active about avoiding, remedying or mitigating adverse effects of their activities. Some resource users may lack the stewardship ethic, and do not understand or recognise the consequences of their activities, especially adverse effects on downstream neighbours and the environment. Examples include activities that degrade downstream water quality to below useable standards, or activities that cause erosion or flooding on another person's property. However, many resource users have already adopted best management practices that avoid, remedy or mitigate adverse effects on the environment. In sensitive receiving environments, such as the Rotorua Lakes, the adoption of a stewardship ethic by all parties is now an expectation of landowners, resource users, and the community.

There is a growing recognition that achieving required environmental standards requires a partnership between landowners, councils and other resource management agencies and organisations. Non-regulatory measures are appropriate and efficient in many situations. Regulatory measures may be necessary to achieve environmental standards particularly where activities are restricted by provisions in the Act, or there are resource users who are not avoiding, remedying or mitigating adverse effects of their activities. Also refer to the introductory section *Role of the Bay of Plenty Regional Council under the Act* for explanation on the difference between land and water management under the Act.

Objective IM O2

Policy IM P7

Method IM M1, IM M3, IM M4, IM M7, IM M8, IM M14, LM M2, LM M11

- IM 12 (Issue 12) **Water quality in some streams, rivers, lakes, estuaries, harbours and coastal margins in the Bay of Plenty can be adversely affected as a result of use and development activities.**

Adverse effects on water quality may include the following:

- 1 Lowered dissolved oxygen.
- 2 Reduced colour and clarity.
- 3 Increased water temperatures.
- 4 Increased levels of bacteria, sediment, nutrients, heavy metals or other contaminants.
- 5 Changes to in-stream biota composition and abundance to more pollutant tolerant species.

Degraded water quality can:

- (a) Limit the use of the water in downstream areas, including water takes for domestic supply, municipal supply, stock water, irrigation or industrial uses. The opportunity to use water in downstream areas is lost where the assimilative capacity of a water body is overloaded by discharges of contaminants to water. This can adversely affect the ability of the community to gain access to potable water supply.
- (b) Adversely affect aquatic ecosystems.
- (c) Adversely affect natural character, landscape, Maori cultural, and recreational values.
- (d) Adversely affect the mauri of the water body.
- (e) Adversely affect the water quality in estuaries, coastal margins and the open coast.
- (f) Have potential adverse effects on human health (e.g. toxic algal blooms).

The major causes of this issue in the Bay of Plenty are:

- (a) Discharges of contaminants or water to water, or discharges to land where the contaminant may enter water, including spills of hazardous substances, where the discharge does not meet required environmental standards.
- (b) Diffuse discharges resulting from land management practices where the adverse effects are not avoided, remedied or mitigated.
- (c) Increased sedimentation as a result of accelerated erosion on land, and activities in the beds of rivers that discharge contaminants or result in sedimentation (including gravel extraction, and stock access to river and lake beds).
- (d) Reduced water flows due to over-abstraction of water.
- (e) A lack of suitable riparian vegetation to stabilise the margins of surface water bodies and filter surface runoff.
- (f) Natural influences and biological responses, including geothermal metals, algal blooms and foams. Natural variances in water quality are evident throughout the region as a result of underlying geology, soil types and weathering patterns. Rivers flowing through peat lands can be discoloured by organic materials leaching into surface water. Water quality can also naturally vary as a result of climate, the quality of inflows, and water levels. Wildlife, particularly aquatic birds, can affect water quality.

Areas in the Bay of Plenty where degraded water quality is of particular concern are:

- 1 The Rotorua Lakes and their catchments. Excessive nutrients from diffuse discharges in lake catchments can lead to the eutrophication of lakes and undesirable biological responses. Aquatic weed, algae proliferation and 'foams' have been noted in the Rotorua lakes during periods of warm weather. Algal blooms, water-weed and lake 'foams' can also restrict recreational use and lower aesthetic values.

- 2 Streams and rivers where:
- (a) There are significant heritage values.
 - (b) There is a high leaching of nutrients from land use activities in the catchment, which enter surface water bodies and have adverse effects on water quality and aquatic ecosystems.
 - (c) The stream or river is in the catchment of Tauranga or Ohiwa Harbour, or Waihi Estuary.
 - (d) Algal growths have been noted during periods of dry weather.
 - (e) The stream or river is a source of municipal water supply. It is recognised that treatment technology is available to ensure the urban community is provided with potable water, while allowing for horticultural and agricultural production. However, there are economic benefits to maintaining potable water quality where required, and it may be cost-effective to manage the effects of activities in these catchments.
- 3 Tauranga and Ohiwa Harbours, and Waihi Estuary. Low energy systems such as estuary and harbour environments accumulate sediment-bound contaminants.

Also refer to IM I1 for the effects of land use on water quality, and the importance of stewardship.

Objective IM O1, RL O1, RL O2, IM O3, IM O7
Policy IM P1, LM P1, LM P2, IM P3, IM P4, LM P3, IM P5, LM P4, IM P6, IM P8, RL P1
Method IM M1, IM M2, IM M3, LM M1, LM M2, LM M3, LM M9, LM M12, LM M13, DW M19, RL M2, LM M14, IM M6, IM M8, LM M15, RL M4, LM M17, LM M18, LM M19, IM M10, LM M22, RL M5, RL M6, RL M7, LM M23, IM M13, IM M14, IM M15, IM M16, IM M17, IM M18, IM M21, IM M22, IM M23, IM M25, IM M26, RL M8, IM M28, Water Quality Classification Map
Rule Rules in the Rotorua Lakes section and Discharges to Water and Land section
Schedule 9

IM I3 (Issue 15) There are some lakes, and bathing sites on rivers and streams in the Bay of Plenty that do not meet bathing quality guidelines.

Bathing quality surveys undertaken by the Regional Council over the summer of 2000/2001 have indicated that about 20% of river bathing sites that were sampled in the Bay of Plenty do not meet the 1999 Ministry of Health/Ministry for the Environment guideline for bathing¹². Schedule 10 lists the freshwater bathing sites monitored by the Regional Council.

Objective IM O1, IM O4, IM O7
Policy IM P1, IM P5, LM P4, IM P8
Method IM M2, LM M18, IM M15, IM M18, IM M21, IM M22
Schedule 9, 10

IM I4 (Issue 16) The coastal environment can be adversely affected by degraded water quality from the out-flows of rivers and streams.

Objective IM O1
Policy IM P1
Method LM M1, IM M1, IM M12, IM M15

¹² Ministry of Health/Ministry for the Environment, November 1999. Recreational Water Quality Guidelines, New Zealand.

IM I5 (Issue 17) **Changing land use can affect rainfall infiltration, surface water runoff and catchment water yields, which in turn may affect surface and groundwater hydrology.**

The main factors of concern in the Bay of Plenty are the effects of changing water flows on:

- (a) The health of aquatic ecosystems.
- (b) The assimilative capacity of rivers and streams.
- (c) Minimum and average water flows, and peak flood flow levels.

Objective IM O1
Policy IM P1, IM P5
Method IM M15, LM M23, IM M18

Objectives

- IM O1 (Objective 8) Integrated management of land and water resources.
- IM O2 (Objective 10) Stewardship of natural resources which:
- (a) Sustains the life-supporting capacity of soil, water and ecosystems.
 - (b) Maintains, and where appropriate, protects cultural, ecological, amenity, natural character and landscape values through management practices that avoid, remedy or mitigate adverse effects.
- IM O3 (Objective 13) The water quality in rivers and streams is maintained or improved to meet the Water Quality Classifications set in the Water Quality Classification Map, and the following environmental outcomes:
- (a) Natural State (Lake) Water Quality Classification - the natural quality of the water shall not change.
 - (b) Natural State (River) Water Quality Classification - the natural quality of the water shall not change.
 - (c) Managed State (Lake) Water Quality Classification - the water quality in the lake shall not deteriorate.
 - (d) Aquatic Ecosystem (Bay of Plenty) Water Quality Classification - water quality shall be sufficient to support diverse and healthy aquatic ecosystems.
 - (e) Contact Recreation Water Quality Classification - water quality shall be sufficient to allow contact recreational uses.
 - (f) Water Supply Water Quality Classification - water quality shall be sufficient to allow for municipal water supply purposes, while recognising water treatment may still be required.
 - (g) Drains with Ecological Values Water Quality Classification - water quality shall be sufficient to support aquatic ecosystems, while recognising that aquatic ecosystems in such areas are limited.
 - (h) Regional Baseline Water Quality Classification - water quality shall not deteriorate.
- IM O4 (Objective 14) The water quality of lakes and bathing sites on rivers and streams listed in Schedule 10 is maintained at a level suitable for swimming.
- IM O5 (Objective 15) Maintenance of high quality groundwater.
- IM O6 (Objective 16) Degraded groundwater quality is improved where appropriate.
- IM O7 (Objective 22) Recognition of the beneficial effects of the use and development of water, land and geothermal resources on the social, cultural and economic wellbeing of people and communities.

Policies

IM P1 (Policy 21) To manage land and water resources in the Bay of Plenty within an integrated catchment management framework to:

- (a) Maintain or enhance water quality in individual lakes to meet their Trophic Level Index ('TLI') and Water Quality Classification.
- (b) Require the management of nitrogen or phosphorus in individual Rotorua Lake catchments.
- (c) Reduce cyanobacterial algal blooms on the Rotorua Lakes by managing nutrient inputs in the lake catchment.
- (d) Maintain or improve water quality in streams and rivers to meet their Water Quality Classification.
- (e) Have full regard to the water quality classifications for coastal waters (including harbours and estuaries), and policies relevant to the coastal environment in the Bay of Plenty Regional Coastal Environment Plan.
- (f) Recognise and provide for heritage values in resource management decisions.
- (g) Maintain existing high quality groundwater, where the following have been identified:
 - (i) Potable water, including aquifers used for municipal water supply.
 - (ii) Natural water quality that has not been adversely affected by land use or point source discharges.
 - (iii) Recharge areas of aquifers related to areas specified in (i) and (ii). and
 - (iv) In the groundwater catchments of the Rotorua lakes, Ohiwa and Tauranga harbours.
- (h) Avoid, remedy or mitigate adverse effects on groundwater quality in other areas not otherwise addressed by (g).
- (i) Ensure the levels of bacteria in those rivers and streams that have been identified as important swimming sites and in lakes in Schedule 10 meet the Ministry of Health/Ministry for the Environment Recreational Water Quality Guidelines (1999) as a minimum.
- (j) Understand the effects of changing land cover and land use practices on water flows and levels in rivers, streams, lakes.
- (k) Promote and encourage the adoption of sustainable land management practices that are appropriate to the environmental characteristics and limitations of the site to:
 - (i) Protect the soil and avoid, remedy or mitigate the adverse effects of erosion.
 - (ii) Maintain the health of the region's soil resources for future generations.
 - (iii) Achieve the appropriate management of riparian areas, including the retirement and planting of riparian areas of streams, rivers, lakes, wetlands and estuaries.
 - (iv) Avoid, remedy or mitigate adverse effects on water quality in the receiving environment.
 - (v) Take into account the assimilative capacity of the soil.
 - (vi) Recognise and provide for heritage values of the site.
 - (vii) Maintain or improve the protective function of coastal sand dunes.
 - (viii) Control sediment entering estuaries and harbours from use and development activities.
- (l) Manage land and water resources according to realistic management goals that are appropriate to the existing environmental quality and heritage values (including ecosystem values) of the location.

IM P2 (Policy 24) To recognise and provide for people and organisations who have adopted proven good environmental management practices.

IM P3 (Policy 25) To encourage and provide for community involvement in the management of water, and land resources.

IM P4 (Policy 26)	To continue to raise community awareness about water quality and integrated management issues.
IM P5 (Policy 28)	To develop and maintain accurate information on soil and water (including groundwater) resources in the region.
IM P6 (Policy 30)	To review and amend the water quality classifications of rivers, streams and lakes where new information is available and indicates a change is necessary, including improved knowledge of aquatic ecosystem values or water quality changes. Changes to the water quality classifications will be publicly notified through a plan change or variation process.
IM P7 (Policy 31)	To promote the adoption of the stewardship of soil and water resources, ecosystems, and cultural, amenity, natural character and landscape values.
IM P8 (Policy 32)	To allow resource use and development where there are beneficial effects on the social, cultural and economic wellbeing of people and communities; and adverse effects on the environment are avoided, remedied or mitigated.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

IM M1 (Method 25)	Promote and encourage the adoption of site-specific sustainable land and water management practices by using the following:
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Table IM 1 Methods of Promoting and Encouraging Sustainable Land and Water Management Practices

	Measure	Explanation
(a)	Information resources	Maintaining information resources on sustainable land management practices and publishing Sustainable Options Land Management Fact Sheets.
(b)	Education programmes	Working with schools and educational organisations to develop and support educational programmes that advance the concept of sustainable land and water management and its practical aspects.
(c)	Practical demonstrations	Trialling soundly-based initiatives that seek to increase the sustainability of land and water management, and holding practical demonstrations of techniques that may be used to bring about sustainable management.
(d)	Providing advice	Providing general advice to landowners on sustainable land and water management, including soil conservation and indigenous and exotic plant species that are suitable for soil conservation plantings.
(e)	Industry initiatives	Encouraging the development and implementation of industry-based best management practices, codes of practice, environmental management systems and self-monitoring programmes that achieve the sustainable development and management of land.
(f)	Recognition	Continuing to publicly recognise initiatives and works (including publications and essays) that promote or achieve the sustainable management of land in the region through awards to landowner organisations, companies or schools.
(g)	Care groups	Promote and encourage the establishment of community based care groups through the provision of technical advice, administrative assistance, approved works assistance and assistance in the development of management plans. Examples include Landcare,

	Measure	Explanation
		Streamcare, Wetlandcare and Coastcare groups.
(h)	Farm nutrient budgets	Encourage the use of farm nutrient budgets where practicable, and provide support material and workshops on the use of farm nutrient budgets, particularly in the catchments of Lakes Rotoehu, Okaro, Rotorua, Okareka, Rotoiti and other lakes that exceed their TLI.
(i)	Environmental Programmes	Refer to IM M8.
(j)	Resource assessments	Promoting land resource investigations and assessments.

- IM M2 (Method 28) Provide information to the community on:
- (a) The natural influences on water quality, including geothermal inputs, and the subsequent limitations on the use of that water.
 - (b) The water quality of rivers and lakes where this information is available.

- IM M3 (Method 29) Raise community awareness of matters relating to the sustainable management of land and water resources using appropriate education and promotion techniques and mechanisms, for example the Environmental Education Strategy for Environment Bay of Plenty 1999-2005¹³.

- IM M4 (Method 30) Promote and support community projects that aim to improve water quality through localised action. This may be carried out in conjunction with the city council and district councils, other resource management agencies, tangata whenua and other organisations as appropriate.

Working with Other Resource Management Agencies and the Community

- IM M5 (Method 44) In conjunction with city or district councils, avoid conflicting management policies, methods and responses, by developing and implementing processes (such as joint consent processing, hearings and protocols) to manage areas of overlapping functions, including but not limited to, issues such as earthworks, heritage values, indigenous vegetation, and geothermal matters.

- IM M6 (Method 46) In conjunction with the city council and district councils, determine if specific management measures are necessary to control activities in the catchments above municipal water supply surface water intakes. Where specific management measures are required, the Regional Council, the city council and/or district councils will consider initiating plan variation or change processes to include such measures in relevant regional or district plans.

- IM M7 (Method 47) In partnership with landowners, develop, trial and implement where appropriate, voluntary Stewardship Management Agreements within the framework of this regional plan to give effects to the Act, to:
- (a) Promote a co-operative approach with positive, ongoing relationships with people as stewards of their land.
 - (b) Have particular regard to the ethic of stewardship.
 - (c) Recognise that stewardship involves both:
 - (i) The use and development of land and water resources; and
 - (ii) The protection of significant sites and of natural resources.
 - (d) Enable people and communities to provide for their social, economic and cultural well-being.
 - (e) Address the specific resource management issues of a property.
 - (f) Promote and encourage the adoption of best management practices that are suitable for the property to achieve sustainable management of resources.
 - (g) Include a process for monitoring the implementation and also reviewing the

¹³ Environment Bay of Plenty, 1999. Environmental Education Strategy for Environment Bay of Plenty 1999-2005 – Learning for a Sustainable Environment.

appropriateness of agreed Stewardship Management Agreements.

Works and Services Provided by the Regional Council

IM M8 (Method 48)

Continue to promote the adoption of Environmental Programmes that:

Table IM 2 Promotion of Environmental Programmes

	Aspect	Method
(a)	Address environmental issues on the property	<p>Address the specific environmental issues of the property, including, but not limited to:</p> <ul style="list-style-type: none"> (a) Fencing and retirement of the riparian margins of rivers, streams, lakes and wetlands. (b) Using alternative means, including bridges and culverts to move stock across rivers, streams and drains. (c) Using appropriate methods to prevent stock access to the beds of lakes, streams, rivers and wetlands including, but not limited to: riparian fencing and planting, land retirement, stock or farm management practices and providing alternative stock water supply other than direct access to surface water bodies. Electric fences may be appropriate in some circumstances in relation to the type of stock, and type of surface water body. (d) The planting of appropriate indigenous wetland species in wetlands and on their margins, where the species is appropriate to the location and type of wetland. Eco-sourced plants are to be used where practicable. (e) Protection of significant indigenous vegetation and significant habitats of indigenous fauna. (f) Pest control.
(b)	Subsidise works	<p>Recognise the significant off-site benefits of soil conservation works by providing grant assistance for approved soil conservation works, including fencing, protection planting and retirement of riparian margins of rivers, streams, lakes and wetlands, and where appropriate, the provision of alternative stock water supply and stock crossings.</p> <p>Funding is to be at a rate that is:</p> <ul style="list-style-type: none"> (i) Equitable to individual landowners and the community, and (ii) Affordable by the region. (iii) At a rate that is agreed with other funding parties, and where the overall percentage split of each operational phase of the programme is applicable to the functions of each party. <p>Funding will be prioritised on the risk of erosion, and potential environmental benefits.</p>
(c)	Encourage a partnership approach	Is in partnership with landowners, and involves other resource management agencies where appropriate.
(d)	Ensure ongoing maintenance	Ensures the terms and conditions of the Environmental Programme are provided for.
(e)	Protect community investment	Use covenants to protect vegetated riparian areas where the works have been subsidised by the Regional Council or any other agency, e.g. QEII Covenants, Nga Whenua Rahui, or Local Purpose Reserve Covenants.
(f)	Integrate works	Integrate soil conservation works with land protection for other purposes by consulting with city or district councils and other organisations that are protecting land for other purposes.

Regulatory Methods

- IM M9 (Method 50) Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017.

Matters Relevant to Resource Consent Applications and Processing

- IM M10 (Method 56) When considering resource consent applications, assess the:
- (a) Natural character,
 - (b) Outstanding natural features and landscapes,
 - (c) Significant indigenous vegetation and significant habitats of indigenous fauna,
 - (d) Maori cultural values,
- Historic heritage, of an activity site on a case by case basis using the requirements in the Bay of Plenty Regional Policy Statement.
- IM M11 (Method 57) Require the improvement of groundwater quality where degradation is due to identifiable human activities and improvement measures are economically and environmentally cost effective and practicable. It is recognised that improvements to groundwater may take time to become apparent, and degradation may be the result of cumulative effects of land use activities over an aquifer or in a recharge area.
- IM M12 (Method 60) Comply with the provisions of the Bay of Plenty Regional Coastal Environmental Plan when assessing resource consents for use and development activities in the coastal environment above mean high water spring, and where there are adverse effects on the coastal environment from use and development activities.
- IM M13 (Method 64) Use financial contributions in accordance with Appendix 2, to achieve the objectives, policies and methods of this regional plan.

Monitoring and Investigation of the Environment

- IM M14 (Method 65) Support the establishment and maintenance of community-based state of the environment monitoring programmes.
- IM M15 (Method 66) Continue to monitor the state of the environment in the Bay of Plenty in accordance with the Regional Council's Natural Environment Regional Monitoring Network ('NERMN'), and existing compliance and impact monitoring programmes.
- IM M16 (Method 67) Use existing impact and state of the environment monitoring programmes to assess the combined effects of discharges of contaminants to water and surface water abstractions on water quality.
- IM M17 (Method 68) Continue to investigate and clarify the nutrient exports of different land uses, and best nutrient management practices.
- IM M18 (Method 72) Undertake research where monitoring indicates an environmental problem that is not currently understood or explained, and research is necessary, appropriate and practicable. Research may be in conjunction with the city council, district councils, other resource management agencies, tangata whenua, industry organisations and other organisations as appropriate.

IM M19 (Method 73)	Identify recharge zones for aquifers that are used for municipal water supply, and in conjunction with the city council and district councils, land owners and the community, determine if specific management measures are necessary to control activities in these zones to avoid or mitigate adverse effects on groundwater quality. A plan change or variation will be initiated if it is necessary to include specific management measures.
IM M20 (Method 74)	<p>Identify those areas where groundwater quality has been significantly degraded by the effects of human activity and take appropriate action, including, but not limited to:</p> <ul style="list-style-type: none"> (a) The development and implementation of groundwater improvement strategies in conjunction with tangata whenua, the city council and district councils, landowner organisations, industry, other organisations and the community; and (b) Reviewing resource consent conditions for discharges of contaminants onto or into land in accordance with section 128 of the Act. The Regional Council will review a resource consent in accordance with section 128 of the Act, where it is proven that adverse environmental effects will occur or continue due to the exercise of that consent.
IM M21 (Method 75)	<p>When bacterial or cyanobacterial levels are above that specified in the Water Quality Classification for an individual lake, river or stream, or other conditions arise that pose a risk to human health:</p> <ul style="list-style-type: none"> (a) Liaise with the Medical Officer of Health, City Council, District Councils, and the community. (b) Investigate the cause of the problem and take action where appropriate.
IM M22 (Method 76)	When water quality in a river or stream is below its water quality classification, determine the cause of the degradation and initiate suitable action, including that specified in LM M1, LM M17 and LM M22.
IM M23 (Method 77)	Use the ANZECC Guidelines for Fresh and Marine Water Quality (2000) to assess and determine site-specific criteria (guideline values) for toxicity limits specific to the environmental conditions of localities or water bodies in the Bay of Plenty region. Site-specific criteria will be included in this regional plan via a plan change process.
IM M24 (Method 79)	Determine appropriate water table levels for land drainage schemes to maintain or enhance land productivity in these areas, while taking into account any adverse effects on peat soils, and aquatic values in canals listed in Schedule 3. Such water table levels will be established in consultation with the land drainage scheme administrator and landowners in the scheme, other agencies involved in aquatic ecosystem management (including administrators of wetland areas that may be affected), soil scientists and roading authorities where appropriate, and included in this regional plan via a plan change process, as appropriate.
IM M25 (Method 80)	Assess and review the appropriateness of water quality classifications for streams, rivers and lakes in relation to state of the environment water quality information, knowledge of aquatic ecosystem values, and the water quality classification criteria in IM M26. Ephemeral flowpaths will be deleted from the Water Quality Classification Map. Any changes to the Water Quality Classification Map will be in accordance with Schedule 1 of the Act, and in consultation with stakeholders and the community.
IM M26 (Method 81)	Use the following criteria to determine appropriate water quality classifications for streams, rivers and lakes in the region:

Table IM 3 Water Quality Classification Criteria

	Water Quality Classification	Criteria	Explanation
(a)	Natural State (River)	Rivers and streams that are under indigenous forest cover, and in upper catchment areas, and in public tenure (i.e. owned or managed by the Department of Conservation or city and district councils).	Natural State (River) does not apply in areas under indigenous forest cover, but where there is a different land use upstream of the indigenous forest.
(b)	Natural State (Lake)	Lakes with existing high water quality.	Protects existing water quality.
(c)	Managed State (Lake)	Lakes with degraded water quality that do not meet their TLI in RL O1.	Recognises the need to improve degraded water quality.
(d)	Aquatic Ecosystem (Bay of Plenty)	Rivers and streams that are not Natural State (River), and provide habitat for indigenous fish species or trout, except where there is a municipal water supply use (refer to Water Supply classification), or there is degraded water quality and Aquatic Ecosystem (Bay of Plenty) standards and criteria are not realistically achievable.	Protects water quality to sufficiently maintain healthy and diverse aquatic ecosystems. However, it is recognised that some rivers and streams (especially the lower reaches of large rivers) are degraded and it would not be efficient or effective to apply standards and criteria that are not practicable or achievable.
(e)	Contact Recreation	Rivers and streams that are not Natural State (River), Aquatic Ecosystem (Bay of Plenty), or Water Supply, and have been identified as being used for contact recreation, or where the outlet of the stream is near a coastal bathing beach.	Protects water quality sufficient to maintain contact recreation uses.
(f)	Water Supply	Rivers and streams that are not Natural State (River), and are upstream of a municipal water supply intake. The classification is applied for a sufficient distance upstream of the water intake.	On small streams, the classification is applied to area above the intake (except where there is Natural State (River)). On large rivers, the classification is applied to the reach at an appropriate distance relative to the land use in the catchment, and volume of the river.
(g)	Drains with Ecological Values	Modified watercourses that are part of land drainage schemes that provide aquatic habitats or migratory pathways for indigenous fish species.	Links to Schedule 3 – Watercourses in Land Drainage Schemes with Ecological Values.
(h)	Drain Water Quality	Any other canal or drain that is part of a land drainage scheme identified in Schedule 5. Excludes privately owned drains.	Provides baseline standards and criteria for discharges to open water in drains.
(i)	Regional Baseline (Bay of Plenty)	Rivers and streams that have not otherwise been classified according to (a) to (h).	Recognises the need to maintain an acceptable water quality in rivers and streams where other values or uses have not otherwise been identified.
Note: In relation to (h), the water quality classification is only to set a baseline for discharges, and is not intended to imply that the Regional Council will control water quality in artificial watercourses.			

- IM 27 (Method 82) Identify and map aquifers and their recharge areas:
- (a) Where there is potable water, including aquifers used for municipal water supply.
 - (b) Where natural water quality has not been adversely affected by land use or point source discharges.
- In the catchments of the Rotorua lakes, Ohiwa and Tauranga harbours.
- IM 28 (Method 84) Use the:
- (a) Water quality classification criteria in IM M26;
 - (b) The definition of ephemeral flowpath; and
- The definition of artificial watercourse;
- when applying the Water Quality Classification Map and an assessment (ground-truthing) is required to determine the appropriate water quality classification. In such situations, the assessment by an appropriately qualified person takes precedence over the Water Quality Classification Map.

Contents

LM Land Management	1
<i>Issues</i>	<i>1</i>
<i>Objectives</i>	<i>4</i>
<i>Policies</i>	<i>4</i>
<i>Methods of Implementation</i>	<i>5</i>
<i>Rules</i>	<i>8</i>

LM Land Management

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

Land Management

Issues

LM I1 (Issue 10)

Land use and management practices that are inappropriate to the specific characteristics of the site, (including soil type) may cause adverse effects on the environment.

Adverse effects may include the following:

- (a) Erosion of land and the banks of rivers, streams, lakes, and wetlands.
- (b) Reduction of the life-supporting capacity of soil over time either from a loss of soil, the deposition of erosion detritus down-slope or in down-stream areas, or by reducing soil health.
- (c) Increased sediment levels in rivers, streams, lakes, land drainage canals and wetlands, which may reduce water quality; adversely affect aquatic habitat values; reduce the flood flow capacity of rivers, streams and land drainage canals; lead to unstable river and stream systems; and lead to the infilling of wetlands and coastal estuaries and harbours.
- (d) Increased nutrient levels in waterways, which can reduce water quality, change aquatic ecosystems, decrease recreation and other public amenity values, and may lead to adverse effects on human health due to algal blooms.
- (e) Reduced protective function of coastal sand dune systems.
- (f) Adverse effects on ecological values, cultural values, natural character and landscapes. Such values may be modified, damaged or destroyed by inappropriate use and development activities. High natural character contributes to recreational values. The maintenance or enhancement of terrestrial and aquatic ecological values is important to indigenous biodiversity.
- (g) Increased faecal coliform levels in water as a result of diffuse runoff from land use.
- (h) The degradation of peat soils.

The major land use activities and areas of concern in the Bay of Plenty are:

- 1 Land use and land management practices that are not suited to the characteristics of the site. Site characteristics include soil type, slope, receiving environment, assimilative capacity of the environment, and climatic conditions. There is insufficient information identifying the adverse effects of specific land use and land management practices on soil and water resources in the Bay of Plenty. The effects on light volcanic soils, and steep greywacke hill country is of particular concern.
- 2 Animals grazing adjacent to streams, rivers and lakes can increase the risk of direct or diffuse discharges of nutrients, faecal material and sediment to water, and can increase bank erosion.

- 3 Land disturbance activities that are not undertaken in accordance with standards required to avoid, remedy or mitigate adverse effects on the environment. These include earthworks, vegetation disturbance, and cultivation where there is a discharge of sediment to water. Sediment from land disturbance activities is of concern around Tauranga Harbour (resulting from inappropriate developments and earthworks), and the Ohiwa Harbour (where areas of kaimoana [sea food] are affected).
- 4 The inappropriate use of fire for vegetation clearance, particularly on young soils, steep land, and pumice country. The water and soil related concerns are loss of organic matter and nutrients from soils, and the discharge of potash (resulting from ash) to streams.
- 5 Damage to the protective functions of coastal sand dunes, which increases the risk of erosion and flooding from storm events along the Bay of Plenty coast, in particular from Waihi Beach to Opape.
- 6 Inappropriate use and development in riparian management areas, including soil disturbance, vegetation clearance, and inappropriate grazing practices, that lead to erosion and the discharge of sediment to water.
- 7 Peat soils are being degraded by over-drainage (including sub-surface drainage) and inappropriate cultivation, which dry the soil. As peat dries, it shrinks and cracks, making the soil difficult to re-wet. The depth of topsoil also decreases. Inappropriate cultivation can also damage the fibrous structure of peat soils. While the total area of peat soils in the region is not large, the productive value of that area is significant. The main areas of peat soils in the Bay of Plenty region are the Rangitaiki Plains, and localities around Papamoa, Maketu, Pukehina, and Waiotaha Drainage District area. Such soils are not as apparent as in other regions, as peat is often buried under layers of other soil types, or appear in mixed layers.

Objective IM O1, LM O1, LM O3, LM O4, LM O5, IM O7

Policy IM P1, LM P1, IM P2, IM P3, IM P4, LM P3, IM P5, IM P8

Method LM M1, IM M1, LM M3, IM M3, LM M4, LM M5, LM M6, LM M7, LM M8, LM M10, IM M5, IM M7, IM M8, LM M16, LM M17, LM M19, IM M10, LM M21, IM M12, IM M15, LM M23, LM M24, LM M25, IM M24

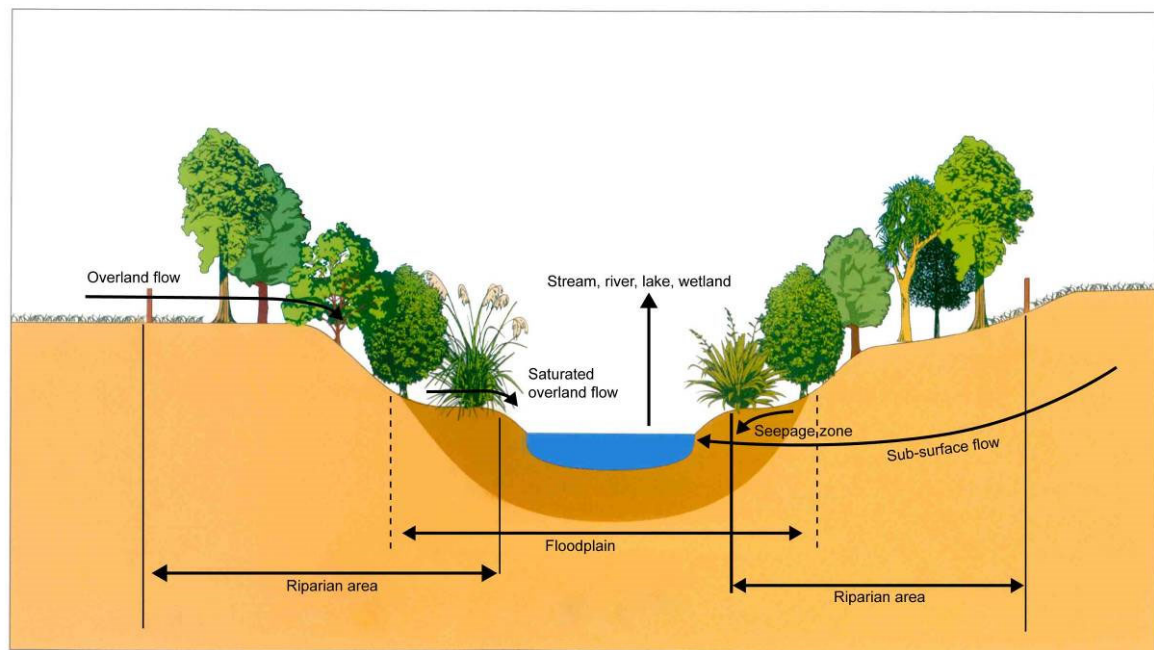
Rule LM R1 to LM R16, LM R17, LM R18

LM I2 (Issue 13)

There is a lack of suitable riparian vegetation in some areas of the region that is necessary to stabilise the margins of surface water bodies and filter surface runoff.

Riparian areas are strips of land bordering streams, rivers, lakes or wetlands, which is one of the major areas of interaction between land and water resources where activities can have direct and significant effects on surface water resources. Refer to Figure LM 1 for an illustration of riparian areas. Management of riparian areas forms an important part of this regional plan. However, it is recognised that riparian retirement and planting is one part of a 'tool box' of management options to avoid, remedy or mitigate the adverse effects of land use activities on the environment.

Figure LM 1 Riparian Area



Adapted from Taranaki Regional Council, 2001.

Appropriate management of riparian areas has a number of benefits, including:

- 1 Water quality. Riparian vegetation can improve water quality as a result of natural filtering, absorption (accumulation of particles) and absorption of contaminants, particularly nutrients. Natural vegetation buffers, such as riparian areas, maximise the utilisation of nutrients by trapping and using nitrogen and phosphorus for plant growth. This filters water entering surface water bodies. Riparian vegetation also intercepts sediments present in rainfall runoff. Riparian areas provide the last opportunity to prevent sediment entering water bodies, and for this reason they are regarded as important for water quality management. Riparian plants may mitigate the adverse effects of land management practices on surface water bodies if such areas are appropriately vegetated and managed. However, it is recognised that riparian retirement and planting is one part of a 'tool box' of management options to avoid, remedy or mitigate the adverse effects of land use activities on the environment.
- 2 Soil conservation. Riparian vegetation cover stabilises stream banks and reduces bank erosion, especially during flood events. This reduces the amount of sediment released to water. The vegetation also slows surface runoff to water bodies, and reduces erosion.
- 3 Terrestrial habitat. Riparian vegetation provides terrestrial habitats and wildlife corridors for birds, plants and other species, and contributes to the indigenous biodiversity of representative vegetation types where appropriate indigenous vegetation is used. It is recognised that plant and animal pests may be a problem in riparian areas.
- 4 Aquatic habitats. Riparian vegetation increases shade, which reduces stream temperatures to that preferred by native fish and trout. Shade also reduces weed growth in waterways. Leaves and debris dropped into streams, rivers and lakes are a food source for fish and invertebrates, and provide habitat for invertebrates.
- 5 Natural character and landscape values. Appropriate riparian vegetation can enhance the natural character and landscape values of rivers, streams, lakes and wetlands.

Although water management and soil conservation are usually the main reasons for establishing and maintaining riparian vegetation, they have other important functions. Managing riparian areas is usually undertaken for multiple objectives, some of which can be conflicting. It is therefore essential to identify the priority objectives for the particular site. The appropriate riparian area (or width) for a site relates to slope/topography, sensitivity of adjacent water body, water quality of adjoining water body, management objectives, adjacent land use, and management requirements.

Many of the costs of management will be incurred by the property in which the riparian area is situated, whereas many benefits will occur outside the property, such as in the stream and elsewhere within the region. Benefits are also likely to occur over a long time period. Some riparian areas will produce benefits immediately. Others may only have a short productive life. A few riparian areas may take years to produce positive results, which may mean that the benefits only accrue to future generations.

Objective LM O2, TH O1, RL O3, OH O1

Policy IM P1, IM P2, IM P4

Method LM M1, IM M1, LM M2, LM M3, LM M5, IM M8, LM M17, LM M25

Rule LM R1 to LM R16, LM R17, LM R18

Objectives

- | | |
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| LM O1 (Objective 9) | Land use and land management practices are appropriate to the environmental characteristics and limitations of the site, and avoid, remedy or mitigate adverse effects on the life-supporting capacity of soil resources, the receiving environment and heritage values. |
| LM O2 (Objective 17) | Riparian margins are appropriately managed to protect and enhance their soil conservation, water quality and heritage values. |
| LM O3 (Objective 19) | Protect vulnerable areas from erosion. |
| LM O4 (Objective 20) | The intactness and health of the region's soils is maintained. |
| LM O5 (Objective 21) | Maintain and improve the protective function of coastal sand dunes. |

Policies

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| LM P1 (Policy 22) | To research and monitor the effects of land use practices on surface and groundwater quality, and take appropriate action within the framework of this regional plan (including future plan changes) where such investigations indicate land use has significant adverse effects on water quality, or there is a high risk that future development would adversely affect water quality. This is particularly relevant to lakes, and groundwater used for municipal water supply. |
| LM P2 (Policy 23) | To develop equitable and workable provisions in relation to existing land uses, where investigations indicate that changes to existing land management practices, or land use restrictions are required to maintain or improve water quality. |
| LM P3 (Policy 27) | To use a range of mechanisms, including education, and regulation where necessary and appropriate, to avoid, remedy or mitigate the adverse effects of land use activities on water quality, or for soil conservation purposes, in order to achieve stated environmental objectives. Areas of particular concern in the Bay of Plenty are riparian margins, steep slopes, erosion-prone soils, the recharge areas of potable groundwater supplies, and the catchments of the Rotorua lakes. |

- LM P4 (Policy 29) To continue to monitor and investigate the cause and effect of biological responses to the adverse effects of use and development activities. This includes, but is not limited to, aquatic weed, algal blooms and lake 'foams'.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

- LM M1 (Method 24) Prioritise the promotion of sustainable land management, soil conservation, the retirement and planting of riparian areas, the adoption of Environmental Programmes and other appropriate practices, in the following locations:
- (a) Where there is high vulnerability to erosion based on slope, soil type and climatic conditions, including ephemeral flowpaths on the pumice plateau, steep erodible gullies and headwater areas, riparian areas, lake and harbour margins, the open coastline, and areas which are already eroded or eroding.
 - (b) Where effects of land use activities are causing water quality to fall below the Water Quality Classifications of the water body.
 - (c) In the catchments of sensitive receiving environments, especially the Rotorua lakes, and Tauranga and Ohiwa harbours.
 - (d) Where intensification of land use is occurring.
 - (e) Areas where there are multiple environmental benefits, including habitat, water quality, biodiversity, and other values.
- LM M2 (Method 26) Continue to encourage the retirement and planting of riparian areas in all areas of the region to:
- (a) Stabilise the banks of rivers, streams, lakes and estuaries to prevent erosion.
 - (b) Improve water quality by mitigating the effects of land use activities, including through the reduction of sediment, nutrient and pathogen contamination.
 - (c) Enhance habitats of indigenous flora and fauna, and complete ecological corridors.
 - (d) Indirectly mitigate the effects of the take and use of surface water on water temperature and the assimilative capacity of rivers and streams.
- LM M3 (Method 27) Encourage the retirement of riparian areas with appropriate indigenous vegetation during the planting, or replanting of production forestry.
- LM M4 (Method 31) Educate drilling operators in the region to ensure:
- (a) The requirements of the National Drilling Standards are met.
 - (b) The information required as part of bore logs is accurately collected and sent to the Regional Council in the appropriate form.
- LM M5 (Method 32) Encourage the use of suitable indigenous species for soil conservation plantings, and in particular the use of eco-sourced stock where available.
- LM M6 (Method 33) In conjunction with the city council and district councils, encourage and support the planting of indigenous vegetation in the riparian areas of waterways in urban areas.

LM M7 (Method 34)	Undertake education and other suitable programmes, including workshops, to increase earthwork operator's awareness of the relevant policies and regulations in this regional plan, and provide information and advice on best management practices.
LM M8 (Method 35)	Encourage land users and developers to reuse topsoil, where appropriate, where the topsoil has been removed from a site as a result of earthworks.
LM M9 (Method 36)	Educate the community to use best management practices, as identified in LM M14, to avoid, remedy or mitigate nutrient outputs from land use and development in the catchments of the Rotorua lakes.
LM M10 (Method 37)	Educate the community on the appropriate management of peat soils in the region, including practices to avoid, remedy or mitigate the adverse effects of use and development on such resources.
LM M11 (Method 38)	Educate the community on: <ul style="list-style-type: none"> (a) The stewardship of soil and water resources, ecosystems, and cultural, amenity, natural character and landscape values; and (b) Appropriate resource management practices to avoid, remedy or mitigate adverse effects on the environment, including people and properties downstream.
LM M12 (Method 39)	Encourage the use of appropriate irrigation rates, volumes and techniques to avoid or mitigate the transport of contaminants (including nutrients and bacteria) from land into groundwater and surface water.
LM M13 (Method 40)	Educate the community on bacterial contamination of water resources resulting from diffuse discharges from rural areas and paved urban areas, and measures they can use to avoid or mitigate such contamination.

Working with Other Resource Management Agencies and the Community

LM M14 (Method 45)	In conjunction with appropriate parties, investigate and document best management practices for nutrient management, including reduction and mitigation measures, for urban and rural land uses.
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Works and Services Provided by the Regional Council

LM M15 (Method 49)	Reduce bacterial levels in lakes, and at bathing sites in rivers and streams to meet bathing standards by: <ul style="list-style-type: none"> (a) Requiring effective treatment of on-site effluent before discharge. (b) Promoting the fencing and planting of riparian areas. (c) Requiring the appropriate management of stock access and crossing of the beds of lakes, rivers and streams. (d) Promoting sustainable land management. (e) Requiring discharges of contaminants to water to meet the bacterial standard of the Water Quality Classification of the receiving water body as a minimum.
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Regulatory Methods

- LM M16 (Method 51) In partnership with resource user groups, and in consultation with other stakeholders:
- (a) Consider establishing accreditation systems for other resource users and developers, including, but not limited to, non-forestry earthwork operators and the primary production sector. (Refer to LM M19).
 - (b) Encourage the development of industry guidelines to address the adverse effects of activities.

- LM M17 (Method 53) Where necessary and appropriate, use rules to restrict the use and development of land that is otherwise allowed by section 9 of the Act where:
- (a) The actual or potential adverse environmental effects of the activity are:
 - (i) More than minor
 - (ii) A high risk to the environment due to adverse long-term effects on water quality, including groundwater and water quality in lakes, rivers and streams.
 - (b) The activity is undertaken in a location that presents a high risk to the environment due to proximity to surface water bodies or the Coastal Marine Area, land slope, vulnerability to erosion, or resources that are otherwise vulnerable to adverse effects (including the protective function of coastal sand dunes).

Note: The development and inclusion of further regional rules in this regional plan will be carried out in accordance with the requirements of the Act, which includes consultation with the city council and district councils.

- LM M18 (Method 54) Use permitted activity rules to allow activities that are otherwise restricted by sections 13, 14, 15 of the Act where:
- (a) The actual or potential adverse environmental effects of the activity are no more than minor.
 - (b) Adverse effects on the environment can be avoided, remedied or mitigated by conditions in permitted activity rules.

Note: In accordance with the restrictive premise of sections 13, 14, 15 of the Act, consents will be required for any activity listed in these sections of the Act that are not otherwise permitted by rules in this regional plan.

- LM M19 (Method 55) Use permitted activity rules to allow activities that are otherwise restricted by other rules, where the activity is carried out by an operator who has adopted good environmental management practices to avoid, remedy or mitigate adverse effects on the environment. The rules will require compliance with standard permitted activity rule conditions.

Matters Relevant to Resource Consent Applications and Processing

- LM M20 (Method 58) Require drilling and bore records information to be collected and provided to the Regional Council for the purpose of establishing an accurate record of groundwater resources in the region.
- LM M21 (Method 59) Discourage the inappropriate use of fire as a land preparation method through a combination of advice and rules.

- LM M22 (Method 61) Consider reviewing resource consents for point source discharges of contaminants to water, or to land where the contaminant or its by-products may enter water, in catchments where water quality in a river or stream does not meet its water quality classification, and discharges are identified to be a cause of the water degradation. The Regional Council will review a resource consent in accordance with section 128 of the Act, where it is proven that adverse environmental effects will occur or continue due to the exercise of that consent.

Monitoring and Investigation of the Environment

- LM M23 (Method 70) Use the results of NERMN monitoring to assess the effects of land use activities and changes in land use patterns on surface water and groundwater quality and quantity. With regards to water quantity, climatic variations, re-vegetation and other natural events will be taken into account.
- LM M24 (Method 71) Continue to consult with relevant regional land user and industry groups to identify any areas where research is required into land management and sustainability issues, and facilitate research projects as appropriate.
- LM M25 (Method 78) Monitor the following:
- (a) The effectiveness of riparian management and plantings on water quality and instream biota using a programme that is consistent with national guidelines.
 - (b) Sites protected under covenants which are part of Regional Council Farm Plans, Environmental Plans and Environmental Programmes.

Rules

Advisory Note

- 1 Refer to the Beds of Water Bodies section for activities in the beds of rivers, streams, or lakes, or the Wetlands section for activities in wetlands.
- 2 The discharge of dust from earthworks, and smoke and particulates from burning is addressed in the Operative Bay of Plenty Regional Air Plan.
- 3 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Written authority from Heritage New Zealand Pouhere Taonga is required prior to any destruction, damage or modification of an archaeological or registered waahi tapu site or an area where there is reasonable cause to suspect there is an archaeological site. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.
- 4 Land disturbance activities are also controlled by provisions in district plans. City and district councils address subdivision and geotechnical aspects of earthworks, including matters relating to the Building Act 2004, land use, and such matters as landscape, natural character, amenity values, and protection of heritage sites.
- 5 Compliance with the provisions of this regional plan does not remove the need to also comply with district plan provisions.
- 6 For the avoidance of doubt, the Riparian Management Zone does not apply to areas of land adjacent to ephemeral flowpaths and artificial watercourses.

*Earthworks and Quarries***LM R1 (Rule 1)****Permitted – Earthworks and Quarries**

The disturbance of land and soil as a result of earthworks or a quarry, where the activity does not exceed the limits in Table LM 1 within any 12 month period is a permitted activity subject to the following conditions:

Table LM 1 Permitted Limits for Earthworks and Quarries

	General Area	Land Slope	Distance from Water Body	Permitted Limits within any 12 month period
(a)	Urban areas on Sand Dune Country, and previously developed subdivisions on Sand Dune Country	No greater than 35°	Coastal land between 50 metres landward of the Coastal Marine Area and either: (i) 150 horizontal metres landward of the Coastal Marine Area; or (ii) the point where land changes from sand dune country to another soil type; whichever is the lesser distance.	Exposed area no greater than 400 m ² and volume no greater than 200 m ³ .
(b)	Riparian Management Zone – Rotorua Lakes	0 to 15°	Between 0-20 horizontal metres from the edge of the lake	Exposed area no greater than 100 m ² and volume no greater than 50 m ³ .
		>15 to 25°	Between 0-25 horizontal metres from the edge of the lake	
		>25 to 35°	Between 0-40 horizontal metres from the edge of the lake	
(c)	Riparian Management Zone - other lake not specified in (b), wetland or the bed of any river or stream, excluding streams and rivers with Water Supply water quality classification and Schedule 1 streams	0 to 7°	Between 0-5 horizontal metres from the edge of the water body	Earthworks excluding stream crossings - Exposed area no greater than 400 m ² and volume no greater than 200 m ³
		>7 to 15°	Between 0-10 horizontal metres from the edge of the water body	Earthworks for stream crossing purposes – exposed area no greater than 1,000 m ² per crossing.
		>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	
		>25 to 35°	Between 0-25 horizontal metres from the edge of the water body	
(d)	Riparian Management Zone – streams and rivers with Water Supply water quality classification	0 to 15°	Between 0-20 horizontal metres from the edge of the water body	Earthworks excluding stream crossings – Exposed area no greater than 400 m ² and volume no greater than 200 m ³ .
		>15 to 25°	Between 0-25 horizontal metres from the edge of the water body	Earthworks for stream crossing purposes – exposed area no greater than 1000 m ² per crossing.
		>25 to 35°	Between 0-40 horizontal metres from the edge of the water body	
(e)	Riparian Management Zone – Schedule 1 streams	0 to 7°	Between 0-5 horizontal metres from the edge of the water body	Earthworks excluding stream crossings - Exposed area no greater than 400 m ² and volume no greater than 200 m ³ .
		>7 to 15°	Between 0-10 horizontal metres from the edge of the water body	Earthworks for stream crossing purposes – exposed area no greater than 600m ² per crossing.
		>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	
		>25 to 35°	Between 0-25 horizontal metres from the edge of the water body	

	General Area	Land Slope	Distance from Water Body	Permitted Limits within any 12 month period
(f)	Ephemeral Flowpath not in the Erosion Hazard Zone	No greater than 35°	N/A	Earthworks excluding roading crossings - Exposed area no greater than 100 m ² and volume no greater than 50 m ³ per individual flowpath. Earthworks outside urban areas for roading crossing purposes – exposed area no greater than 400 m ² per crossing.
(g)	Coastal Margin	No greater than 35°	Land between 20-40 horizontal metres as measured from the Coastal Marine Area on the edge of an estuary, harbour, or the open rocky coast.	Exposed area no greater than 400 m ² and volume no greater than 200 m ³ .
(h)	Land not in areas covered by (a) to (e), and not in the Erosion Hazard Zone	0 to 15°	N/A	Exposed area no greater than 1 hectare and volume no greater than 5,000 m ³ .
		>15 to 25°	N/A	Exposed area no greater than 5,000 m ² and volume no greater than 5,000 m ³ .
		>25 to 35°	N/A	Exposed area no greater than 500 m ² and volume no greater than 500 m ³ .

Notes:

- 1 Any earthworks:
 - (a) In the Erosion Hazard Zone, or
 - (b) On slopes greater than 35 degrees; or
 - (c) On coastal land between 0-50 metres of the Coastal Marine Area on Sand Dune Country; or
 - (d) On coastal land between 0-20 metres of the Coastal Marine Area on the Coastal Margin;
 are discretionary activities under LM R4.
- 2 The area covered by Table LM 1(a) will be interpreted to be modified or stabilised Sand Dune Country which has a vegetative cover, sealed or compacted soil, and a previously modified or flattened topography. This excludes unmodified or natural dune systems.
- 3 Any earthworks in the Coastal Margin between 0 to 20 horizontal metres as measured from the Coastal Marine Area on the edge of an estuary, harbour, or the open rocky coast are a discretionary activity under LM R4.

- (a) There shall be no point source discharge of sediment contaminated stormwater to surface water from the activity.
- (b) The diffuse discharge of sediment contaminated stormwater to surface water from the activity shall not cause the following effects, except where a 20% AEP flood event is exceeded:
 - (i) The production of any conspicuous oil, grease films, scums or foams, or floatable or suspended solids.
 - (ii) Any conspicuous change in colour or visual clarity.
 - (iii) Any emission of objectionable odour.
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals.
 - (v) Any more than minor adverse effects on aquatic life.

- (c) The activity shall not cause or induce erosion to land or to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (d) Fill from the earthwork activity shall not be deposited in overland or secondary flow paths that convey stormwater during rainfall events.
- (e) The activity shall not obstruct or divert the flow of water in such a manner that it results in damming, flooding or erosion.
- (f) The activity shall not disturb vegetation in a wetland; or change the water flow or quantity, or water quality in a wetland.
- (g) Where an activity is a cleanfill site, the activity shall comply with the Ministry for the Environment's Cleanfill Guidelines (2001)¹⁴.
- (h) The activity shall not disturb an identified contaminated site.
- (i) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (j) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.
- (k) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (l) The activity shall be staged, managed and completed, and the activity site closed-off, in a manner that ensures compliance with conditions (a) to (k) inclusive.
- (m) Any stormwater from outside the exposed area shall be kept separate from the earthworks area.
- (n) Where the earthworks are for stream crossing purposes, the activity shall also comply with the following conditions:
 - (i) The crossing shall be made at, or near to, right angles to the flow of the water in the river or stream, ensuring minimal roading in the Riparian Management Zone.
 - (ii) The area shall be stabilised as soon as practicable, but no later than 3 months from the end of the activity.
 - (iii) All practicable steps shall be taken to keep stormwater away from the stream crossing approach.

Advisory Note

- 1 Cleanfill sites that do not produce leachate are included in the definition of 'earthworks'.
- 2 In relation to condition (a), where there is a point source discharge of sediment contaminated stormwater to surface water from earthworks, then a resource consent is required under DW R8. Discharges to land soakage are permitted under DW R22.
- 3 In relation to condition (g), the disturbance of a contaminated site is addressed by DW R24 and DW R25.

³⁶ Ministry for the Environment, 2001. Guide to the Management of Cleanfills. Wellington, New Zealand.

- 4 Volume of earthworks is measured as the following:
 - (a) The volume as 'cut' where the material is taken away from the activity site; or
 - (b) The volume as 'fill' where the material is received from an area which is not the activity site; or
 - (c) The volume as 'cut to fill' within an activity site. This means that up to maximum permitted volume can be moved within one activity site (e.g. in relation to Table LM 1 (f), 5,000 m³ can be moved within an activity site).
- 5 Best management practices shall be used to avoid or mitigate the discharge of sediment contaminated stormwater to water. In selecting the best management practices appropriate to the activity site, the following should be considered:
 - (a) The water quality classification of the receiving water body.
 - (b) Aquatic ecosystem values of the receiving water body.
 - (c) Soil type and slope.
 - (d) Proximity to surface water bodies.
- 6 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow earthworks and quarries that are located in low risk areas. Earthworks and quarries that do not comply with all the required conditions require consent. Refer to Flow Diagram LM 1 to assist reading of this rule. In relation to condition (a), it is unlikely that discharges of sediment contaminated stormwater from earthworks will meet the requirements of DW R20 (permitted discharges of stormwater to surface water). Discharges from earthworks need to comply with DW R21 (permitted discharge of stormwater to land).

LM R2 (Rule 1A) Controlled – Earthworks and Quarries

The disturbance of land and soil as a result of earthworks or a quarry, where the activity is:

- 1 Not in the Riparian Management Zone;
- 2 Not in the Coastal Margin;
- 3 Not in the Erosion Hazard Zone;

and does not exceed the limits in Table LM 2 within any 12 month period is a controlled activity, subject to the following terms and conditions:

Table LM 2 Controlled Earthworks

	General Area	Land Slope	Controlled Limits
(a)	Ephemeral Flowpath not in the Erosion Hazard Zone	0 to 25°	Exposed area no greater than 1,000 m ² and volume no greater than 500 m ³ per individual flowpath
(b)	Land not in the Riparian Management Zone, an ephemeral flowpath, the Coastal Margin, or the Erosion Hazard Zone	0 to 15°	2 hectare and 20,000 m ³
		>15 to 25°	5,000 m ² and 10,000 m ³
		>25 to 35°	1,000 m ² and 5,000 m ³

- (a) There shall be no point source discharge of sediment contaminated stormwater to surface water from the activity.
- (b) The diffuse discharge of sediment contaminated stormwater to surface water from the activity shall not cause the following effects, except where a 20% AEP flood event is exceeded:
 - (i) The production of any conspicuous oil, grease films, scums or foams, or floatable or suspended solids.
 - (ii) Any conspicuous change in colour or visual clarity.
 - (iii) Any emission of objectionable odour.
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals.
 - (v) Any more than minor adverse effects on aquatic life.
- (c) The activity shall not cause or induce erosion to land or to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (d) Fill from the earthwork activity shall not be deposited in overland or secondary flow paths that convey stormwater during rainfall events.
- (e) The activity shall not obstruct or divert the flow of water in such a manner that it results in damming, flooding or erosion.
- (f) The activity shall not disturb vegetation in a wetland; or change the water flow or quantity, or quality in a wetland.
- (g) Where an activity is a cleanfill site, the activity shall comply with the Ministry for the Environment's Cleanfill Guidelines (2001).
- (h) The activity shall not disturb an identified contaminated site.
- (i) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (j) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.
- (k) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

The Regional Council reserves its control over the following matters:

- (a) Measures to manage discharges of contaminants from the activity, including discharges of sediment contaminated stormwater.
- (b) Measures to avoid, remedy or mitigate erosion.
- (c) Timing and duration of the activity.
- (d) Effect on water flows, including overland or secondary flow paths that convey stormwater during rainfall events.
- (e) Measures to avoid, remedy or mitigate adverse effects on sites of significance to tangata whenua, indigenous biodiversity, and areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- (f) Measures to protect and replace topsoil where the activity is re-contouring.

- (g) Information and monitoring requirements.
- (h) The administration charges under section 36 of the Act.

Notification

Applications for controlled activities under this Rule do not require the written approval of affected persons, and shall not be publicly notified, except where the Regional Council considers special circumstances exist in accordance with Section 94C of the Act.

Advisory Note

- 1 Volume of earthworks is measured as the following:
 - (a) The volume as 'cut' where the material is taken away from the activity site; or
 - (b) The volume as 'fill' where the material is received from an area which is not the activity site; or
 - (c) The volume as 'cut to fill' within an activity site. This means that up to maximum permitted volume can be moved within one activity site (e.g. in relation to Table LM 2(b) slope 0-15°, 20,000 m³ can be moved within an activity site).
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To control earthworks and quarries that present some risk to the environment, and where it is appropriate to assess the effects of the activity within the resource consent application process.

LM R3 (Rule 1B)

Restricted Discretionary – Earthworks and Quarries

The disturbance of land and soil as a result of earthworks or a quarry, where the activity does not exceed limits in Table LM 3 within any 12 month period is a restricted discretionary activity.

Table LM 3 Restricted Discretionary Earthworks and Quarries

	General Area	Land Slope	Distance from Water body	Restricted Discretionary Limits
(a)	Riparian Management Zone – Rotorua Lakes	0 to 15°	Between 0-20 horizontal metres of the lake	500 m ² and 500 m ³
		>15 to 25°	Between 0-25 horizontal metres of the lake	
		>25 to 35°	Between 0-40 horizontal metres of the lake	
(b)	Riparian Management Zone – other lake not specified in (a), wetland or the bed of any river or stream, excluding streams and rivers with Water Supply water quality classification	0 to 7°	Between 0-5 horizontal metres of the water body	Earthworks excluding stream crossings – 500 m ² and 500 m ³ Earthworks for stream crossing purposes – all earthworks not permitted by LM R1
		>7 to 15°	Between 0-10 horizontal metres of the water body	
		>15 to 25°	Between 0-20 horizontal metres of the water body	
		>25 to 35°	Between 0-25 horizontal metres of the water body	

	General Area	Land Slope	Distance from Water body	Restricted Discretionary Limits
(c)	Riparian Management Zone – streams and rivers with Water Supply water quality classification	0 to 15°	Between 0-20 horizontal metres from the edge of the water body	Earthworks excluding stream crossings – 500 m ² and 500 m ³ .
		>15 to 25°	Between 0-25 horizontal metres from the edge of the water body	Earthworks for stream crossing purposes – all earthworks not permitted by LM R1.
		>25 to 35°	Between 0-40 horizontal metres from the edge of the water body	
(d)	Ephemeral Flowpath not in the Erosion Hazard Zone	No greater than 35°	N/A	Any activity not otherwise permitted by LM R1 or controlled by LM R2.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to manage discharges of contaminants from the activity, including discharges of sediment contaminated stormwater.
- (b) Measures to avoid, remedy or mitigate erosion.
- (c) Timing and duration of the activity.
- (d) Effect on water flows, including overland or secondary flow paths that convey stormwater during rainfall events.
- (e) Measures to avoid, remedy or mitigate adverse effects on: natural character of the coastal environment, wetlands, lakes, rivers and their margins; amenity values; legal public access; sites of significance to tangata whenua; aquatic ecosystems; indigenous biodiversity; and areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- (f) Measures to protect and replace topsoil where the activity is re-contouring.
- (g) Information and monitoring requirements.
- (h) The administration charges under section 36 of the Act.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To control earthworks and quarries that present a higher risk to the environment, and where it is appropriate to assess specific adverse effects of the activity on the environment within the resource consent application process.

LM R4 (Rule 1C)

Discretionary – Earthworks and Quarries

The disturbance of land and soil as a result of earthworks or a quarry, where the activity:

- 1 Is not permitted by a rule in this regional plan, and

- 2 Is not a controlled activity under a rule in this regional plan, and
 - 3 Is not a restricted discretionary activity under a rule in this regional plan,
- Is a discretionary activity.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

Objective KT O44, KT O5, LM O1, LM O2, LM O3, LM O5, DW O9, DW O10, DW O12
Policy KT P5, KT P14, KT P15, KT P17, KT P18, KT P20, IM P1, DW P15, DW P18
Method KT M12, KT M19, KT M20, IM M10, IM M12, DW M28

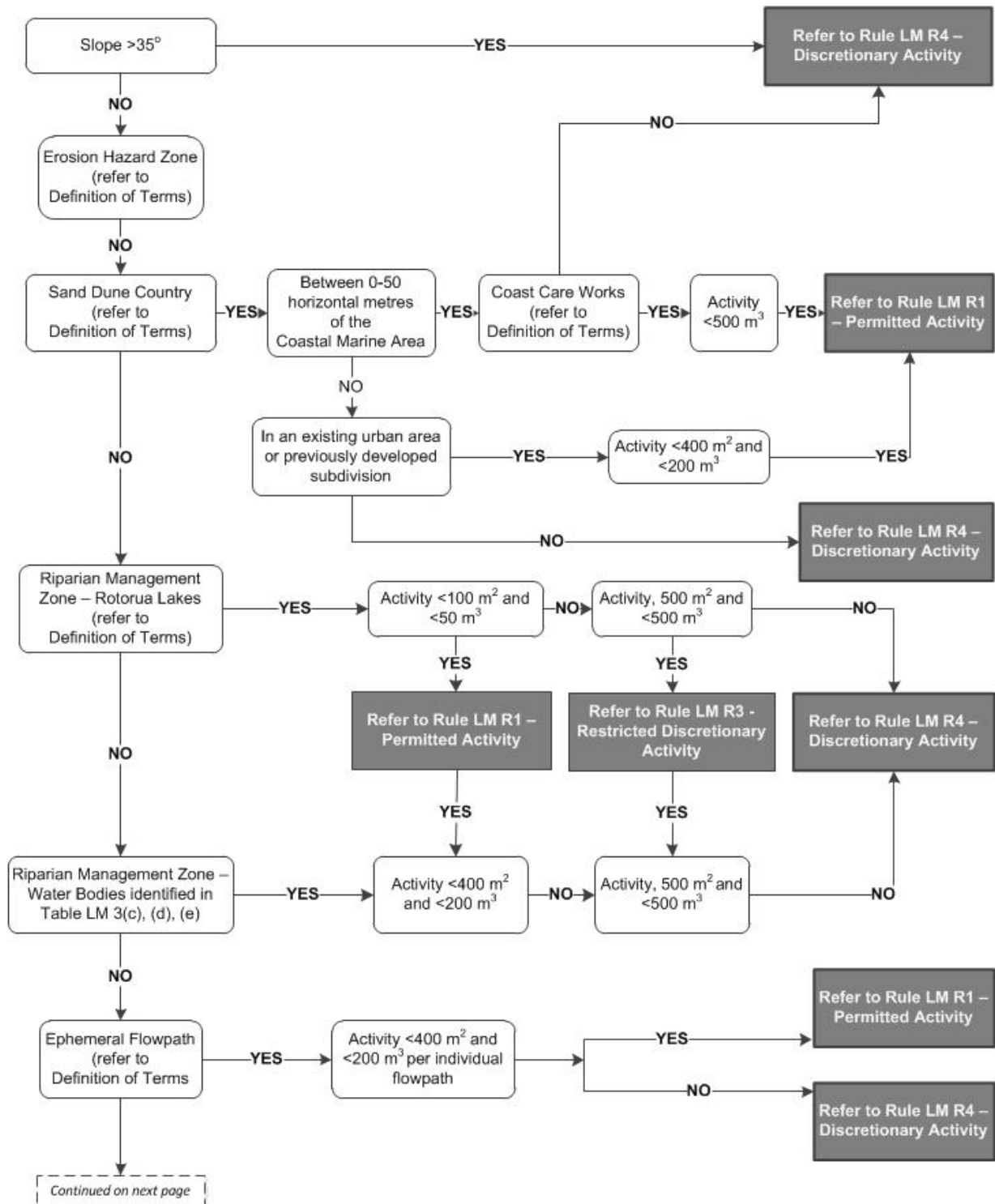
Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

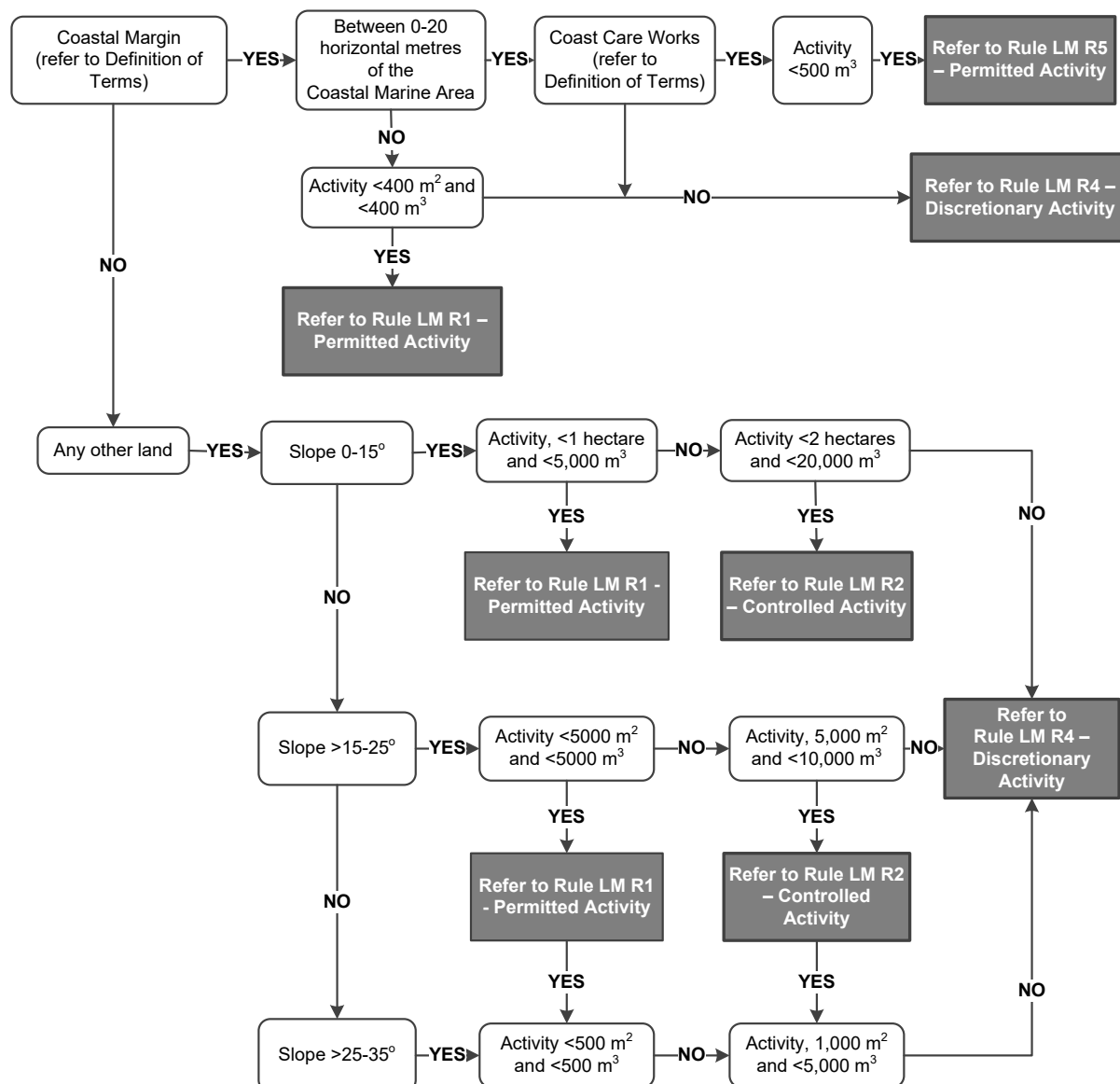
Explanation/Intent of Rule

To control earthworks and quarries that present a high risk to the environment, and where it is appropriate to assess the effects of the activity within the resource consent application process.

Flow Diagram LM 1 – Earthworks and Quarries



Flow Diagram LM 1 – Earthworks and Quarries (cont)



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Coast Care Works

LM R5 (Rule 1D)

Permitted – Earthworks and Vegetation Disturbance on Coastal Margins and Sand Dune Country for Coast Care Works

The disturbance of land and soil as a result of earthworks or vegetation disturbance carried out as part of “Coast Care” works that have been formally approved by the Regional Council, where:

- 1 The earthworks are on land in the Coastal Margin or Sand Dune Country, and
- 2 The earthworks and vegetation disturbance are part of beach scraping (sand relocation) works and associated maintenance works, and

- 3 The volume of earthworks does not exceed 500 m³ for any one activity site within a 12 month period, and
- 4 The activity is not carried out seaward of the line of Mean High Water Springs, or the Coastal Marine Area, or involve any works in the bed of a stream or river,

Is a permitted activity subject to the following conditions:

- (a) Notification of the activity shall be given to the Regional Council, the Department of Conservation, and the relevant district council, a minimum of 10 working days before the start of any works.
- (b) Any local sand from the beach shall only be moved from the area above the line of mean high water springs, and the works shall not weaken the protective function of any dune system.
- (c) Any sand brought in from an external source shall be free of foreign materials or plant pests, and shall be of similar characteristics (such as grain size and colour) to the existing sand on the dune at the activity site.
- (d) The relocated sand shall be placed to have a seaward slope of not greater than 10 degrees, and shall be planted with appropriate indigenous foredune species within 4 weeks of the completion of the earthworks.
- (e) The activity shall not cause or induce erosion to land or to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (f) The activity shall not damage or destroy a wetland.
- (g) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body (including coastal water).
- (h) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body (including coastal water).
- (i) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.
- (j) No works shall be carried out adjacent to the tidal reaches of rivers and streams between 1 March and 31 May.

Advisory Note

- 1 Earthworks and vegetation disturbance in the coastal environment may also be controlled by provisions in district plans. Compliance with this Rule does not remove the need to also comply with any provisions in a district plan.
- 2 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or historic sites within the area of the activity. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from the Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.

- 3 The Bay of Plenty Regional Coastal Environment Plan contains policies on the protection of significant sites identified in that plan. In relation to this policy and activities addressed in this rule, any “Coast Care” works will avoid adverse effects on sites identified in the Third Schedule, Fourth Schedule, Sixth Schedule, and Seventh Schedule of the Bay of Plenty Regional Coastal Environment Plan.
- 4 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow for Coast Care works necessary for the enhancement of coastal dune systems, while ensuring any adverse effects from the activity are avoided, remedied or mitigated.

LM R6 (Rule 1E)

Controlled – Earthworks and Vegetation Disturbance on Coastal Margins and Sand Dune Country for Coast Care Works

The disturbance of land and soil as a result of earthworks or vegetation disturbance carried out as part of “Coast Care” works that have been formally approved by the Regional Council, where the activity is not permitted by LM R5, is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Measures to manage discharges of contaminants from the activity, including discharges of sediment contaminated stormwater.
- (b) Measures to avoid, remedy or mitigate erosion.
- (c) Timing and duration of the activity.
- (d) Measures to avoid, remedy or mitigate effects on the protective function of dune systems, natural beach processes, and coastal dynamics.
- (e) Measures to avoid, remedy or mitigate adverse effects on sites of significance to tangata whenua.
- (f) Measures to avoid, remedy or mitigate adverse effects on the natural character of the coastal environment, indigenous biodiversity, areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- (g) Measures to comply with relevant provisions in the Bay of Plenty Regional Coastal Environment Plan.
- (h) Information and monitoring requirements.
- (i) The administration charges under section 36 of the Act.

Notification

Applications for controlled activities under this Rule do not require the written approval of affected persons, and shall not be publicly notified, except where the Regional Council considers special circumstances exist in accordance with Section 94C of the Act.

Explanation/Intent of Rule

To allow the Regional Council to assess the effects of large-scale Coast Care works to ensure any adverse effects from the activity are avoided, remedied or mitigated.

*Land and Soil Disturbance by Vegetation Clearance***Advisory Note**

- 1 Indigenous vegetation may be classified as significant by the relevant city or district council and protected under its district plan. Compliance with the provisions of this regional plan does not remove the need to also comply with district plan provisions.
- 2 Where vegetation clearance does not result in the disturbance of land or soil, the vegetation clearance activity is not controlled by this regional plan.
- 3 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

LM R7 (Rule 2)**Permitted – Land and Soil Disturbance by Vegetation Clearance**

The disturbance of land and soil resulting from vegetation clearance, where:

- 1 The activity is not:
 - (a) On land with a dominant slope greater than 35 degrees; or
 - (b) In the Erosion Hazard Zone; or
 - (c) In the Coastal Margin;

And either (2) or (3):

- 2 The activity complies with 4, 5, 6, 7 or 8 below.
- 3 The activity is on any other land not covered by 2 above.

Is a permitted activity subject to compliance with conditions (a) to (l) inclusive below.

- 4 The activity is vegetation clearance in an ephemeral flowpath (refer to definition), and either (a) or (b):
 - (a) Is the clearance of vegetation that is causing erosion, or is blocking water flow; or
 - (b) Is the removal of exotic weed tree species, including, but not limited to, willows and wilding pines.

Or

- 5 The activity is the harvesting of existing exotic vegetation species where the plants were planted as of 8 July 2008, and the activity is in the Riparian Management Zone, with a dominant slope no greater than 25 degrees in relation to Table LM 4(a) to (c), or with a dominant slope no greater than 35 degrees in relation to Table LM 4(d), and the area specified in Table LM 4 is replanted in indigenous vegetation or allowed to re-vegetate for retirement purposes;

Table LM 4 Riparian Retirement Distance

	General Area	Land Slope	Riparian Retirement Distance
(a)	Riparian Management Zone – Rotorua Lakes	0 to 25°	Between 0-10 horizontal metres from the edge of the lake
(b)	Riparian Management Zone – streams and rivers listed in Schedule 1	0 to 25°	Between 0-10 horizontal metres from the edge of the river or stream
(c)	Riparian Management Zone – streams and rivers classified as Water Supply in the Water Quality Classification Map	0 to 25°	Between 0-10 horizontal metres from the edge of the river or stream
(d)	Riparian Management Zone - All streams, rivers not other addressed by (b) or (c); wetlands; and lakes not specified in (a)	0 to 25°	Between 0-5 horizontal metres from the edge of the water body
		25-35°	Between 0-10 horizontal metres from the edge of the water body

Or

- 6 The activity is in the Riparian Management Zone with a dominant slope no greater than 25 degrees in relation to Table LM 4(a) to (c), or with a dominant slope no greater than 35 degrees in relation to Table LM 4(d), and the riparian area specified in Table LM 4 has previously been retired and is retained.

Or

- 7 The activity is associated with stream crossings in the Riparian Management Zone where the dominant slope is no greater than 35 degrees, and the area of vegetation clearance on the activity site is no greater than that permitted for stream crossings in LM R1 Table LM 1 within any 12 month period.

Or

- 8 The activity is in the Riparian Management Zone with a dominant slope no greater than 35 degrees, and the area of vegetation clearance on the activity site is no greater than that specified in Table LM 5, within any 5 year period.

Table LM 5 Permitted Vegetation Clearance in the Riparian Management Zone

	General Area	Land Slope	Riparian Management Zone distance	Permitted Vegetation Clearance – exposed area
(a)	Riparian Management Zone – Rotorua Lakes	0 to 15°	Between 0-10 horizontal metres from the edge of the lake	Exposed area no greater than 100 m ²
		>15 to 25°	Between 0-20 horizontal metres from the edge of the lake	
		25 to 35°	Between 0-25 horizontal metres from the edge of the lake	
(b)	Riparian Management Zone - other lake not specified in (b), wetland	0 to 7°	Between 0-5 horizontal metres from the edge of the water body	Exposed area no greater than 400 m ²

	General Area	Land Slope	Riparian Management Zone distance	Permitted Vegetation Clearance – exposed area
	or the bed of any river or stream, excluding streams and rivers with Water Supply water quality classification and Schedule 1 streams	>7 to 15°	Between 0-5 horizontal metres from the edge of the water body	
		>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	
		25 to 35°	Between 0-25 horizontal metres from the edge of the water body	
(c)	Riparian Management Zone – streams and rivers with Water Supply water quality classification	0 to 15°	Between 0-10 horizontal metres from the edge of the water body	Exposed area no greater than 400 m²
		>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	
		25 to 35°	Between 0-25 horizontal metres from the edge of the water body	
(d)	Riparian Management Zone – Schedule 1 streams	0 to 7°	Between 0-5 horizontal metres from the edge of the water body	Exposed area no greater than 400 m²
		>7 to 15°	Between 0-5 horizontal metres from the edge of the water body	
		>15 to 25°	Between 0-20 horizontal metres from the edge of the water body	
		25 to 35°	Between 0-25 horizontal metres from the edge of the water body	

Permitted activity conditions for LM R7:

- (a) There shall be no point source discharge of sediment contaminated stormwater to surface water from the activity.
- (b) The diffuse discharge of sediment contaminated stormwater to surface water from the activity shall not cause the following effects, except where a 20% AEP flood event is exceeded:
 - (i) The production of any conspicuous oil, grease films, scums or foams, or floatable or suspended solids.
 - (ii) Any conspicuous change in colour or visual clarity.
 - (iii) Any emission of objectionable odour.
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals.
 - (v) No more than minor adverse effects on aquatic life.
- (c) The activity shall not cause or induce erosion to land or to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.

- (d) The activity shall not disturb vegetation in a wetland; or change the water flow of quantity, or water quality in a wetland.
- (e) The activity shall not disturb an identified contaminated land.
- (f) The activity shall not obstruct or divert the flow of water in such a manner that it results in damming, flooding or erosion.
- (g) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (h) All vegetation slash shall be managed to avoid accumulation to levels that could cause erosion or instability of land, especially around skid sites or landings.
- (i) Vegetation or debris resulting from the activity shall be removed from all permanently flowing streams where it will divert or dam the watercourse, obstruct fish passage or destroy the aquatic habitats of indigenous species or trout. The vegetation or debris shall be removed in a manner that minimises the damage or disturbance to the banks of surface water bodies.
- (j) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (k) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.
- (l) Where the activity is in an ephemeral flowpath, vegetation shall not be removed from the site by hauling along the ephemeral flowpath. This does not apply to aerial hauling.

Advisory Note

- 1 For the avoidance of doubt, vegetation clearance on slopes 0-35 degrees; and not in the Erosion Hazard Zone, Coastal Margin, Riparian Management Zone, or an ephemeral flowpath; is a permitted activity.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow vegetation disturbance in low risk areas, and where there is only minor discharges of sediment contaminated stormwater off-site. This rule does not restrict the trimming of vegetation, or other vegetation disturbance activities that do not disturb land. Such activities are not addressed by this regional plan. Refer to Flow Diagram LM 2 to assist reading of this rule.

LM R8 (Rule 2A)

Controlled - Land and Soil Disturbance by Vegetation Clearance

The disturbance of land and soil resulting from vegetation clearance, where the activity is:

- 1 In an Ephemeral flowpath not in the Erosion Hazard Zone, where the dominant slope is no greater than 35 degrees, and where the activity does not otherwise comply with LM R7;

Or

- 2 The activity is the harvesting of existing exotic vegetation species where the plants were planted as of 1 December 2008, and the activity is in the Coastal Margin with a dominant slope no greater than 35 degrees;

Is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Measures to manage discharges of contaminants from the activity, including discharges of sediment contaminated stormwater.
- (b) Measures to avoid, remedy or mitigate erosion.
- (c) Timing and duration of the activity.
- (d) Effect on water flows, including overland or secondary flow paths that convey stormwater during rainfall events.
- (e) Measures to avoid, remedy or mitigate adverse effects on sites of significance to tangata whenua, and significant habitats of indigenous flora and fauna, and significant indigenous vegetation (including geothermal vegetation).
- (f) Measures to avoid, remedy or mitigate adverse effects on wetlands, and aquatic habitats.
- (g) Measures to avoid, remedy or mitigate adverse effects on coastal hazards, natural character and amenity values of the Coastal Margin.
- (h) Information and monitoring requirements.

Advisory Note

- 1 The location of replanting boundaries in the Coastal Margin of the activity site may be considered in relation to (a) to (g) inclusive.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To control the disturbance of land resulting from vegetation disturbance that presents some risk to the environment, and where it is appropriate to assess the effects of the activity within the resource consent application process.

LM R9 (Rule 2B)

Restricted Discretionary – Land and Soil Disturbance by Vegetation Clearance

The disturbance of land and soil resulting from vegetation clearance, where the activity is:

- 1 On land not in the Riparian Management Zone, Erosion Hazard Zone, or Coastal Margin (refer to definitions), and the dominant slope is greater than 35 degrees and the site is being replanted in tree vegetation;

Or

- 2 The harvesting of existing exotic vegetation species where the plants were planted as of 1 December 2008, on land in the Riparian Management Zone adjacent to either the Rotorua Lakes, streams and rivers listed in Schedule 1; or streams and rivers with Water Supply water quality classification; and where the dominant slope is between 25 and 35 degrees, and a riparian area is replanted or allowed to revegetate for retirement purposes in indigenous riparian vegetation;

Or

- 3 On land in the Riparian Management Zone on slopes no greater than 35 degrees, where the activity does not otherwise comply with LM R7;

Or

- 4 The activity would otherwise be permitted by LM R7, except for non-compliance with condition (b).

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to manage discharges of contaminants from the activity, including discharges of sediment contaminated stormwater.
- (b) Measures to avoid, remedy or mitigate erosion.
- (c) Timing and duration of the activity.
- (d) Effect on water flows, including overland or secondary flowpaths that convey stormwater during rainfall events.
- (e) Measures to avoid, remedy or mitigate adverse effects on sites of significance to tangata whenua, and significant habitats of indigenous flora and fauna, and significant indigenous vegetation (including geothermal vegetation).
- (f) Measures to avoid, remedy or mitigate adverse effects on wetlands, and aquatic habitats.
- (g) Information and monitoring requirements.

Advisory Note

- 1 The location or replanting boundaries in the riparian margin of the activity site may be considered in relation to (a) to (f) inclusive.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To control the disturbance of land resulting from vegetation disturbance that presents a higher risk to the environment, and where it is appropriate to assess the effects of the activity within the resource consent application process.

LM R10 (Rule 2C) Discretionary – Land and Soil Disturbance by Vegetation Clearance

The disturbance of land and soil resulting from vegetation clearance, where the activity:

- 1 Is not permitted by a rule in this regional plan, and

- 2 Is not a controlled activity under a rule in this regional plan, and
 - 3 Is not a restricted discretionary activity under a rule in this regional plan;
- Is a discretionary activity.

Advisory Note

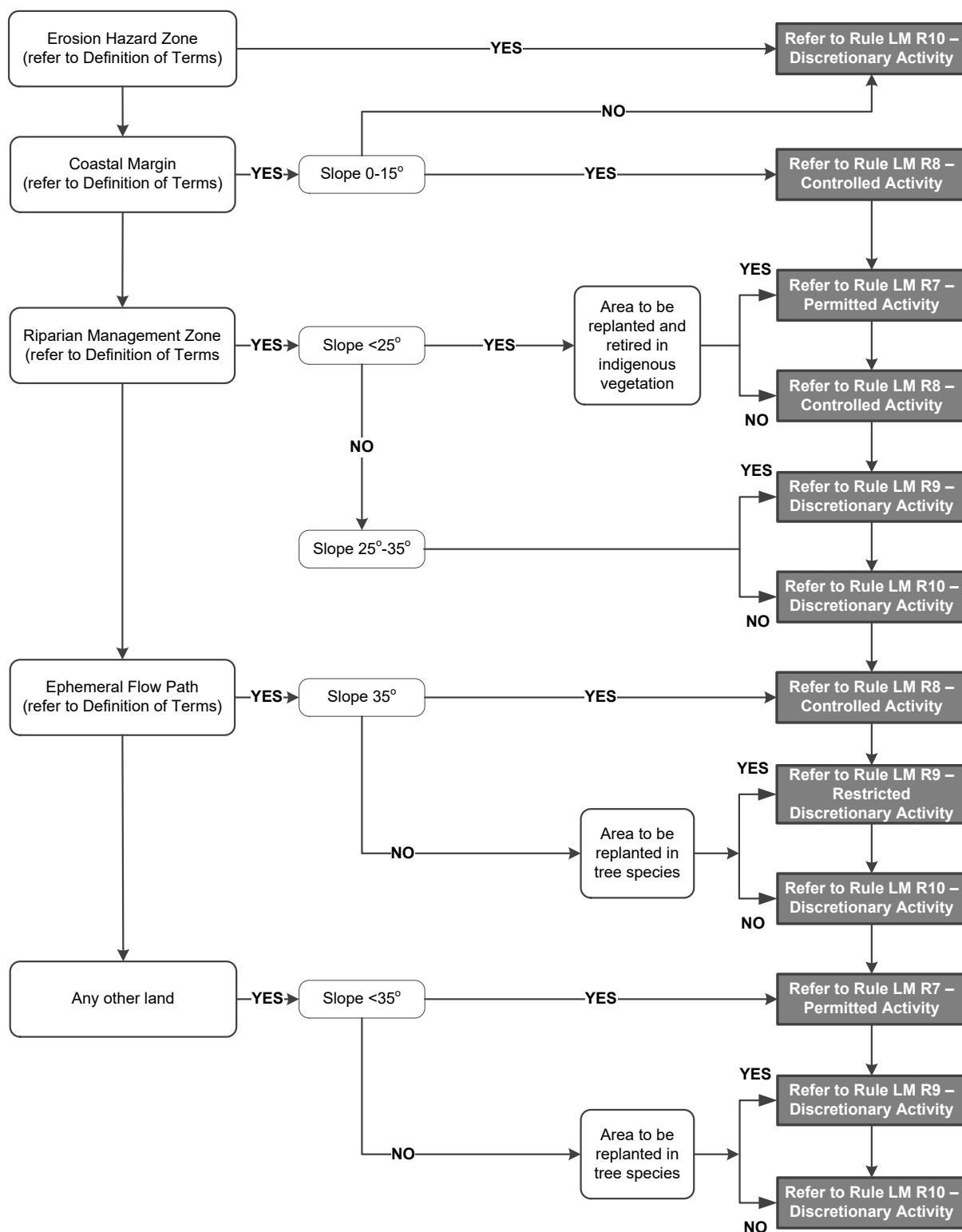
- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	<i>KT O4, KT O5, LM O1, LM O2, LM O3, LM O5, DW O9, DW O124</i>
<i>Policy</i>	<i>KT P5, KT P14, KT P15, KT P17, KT P18, KT P20, IM P21, DW P15, DW P18</i>
<i>Method</i>	<i>KT M13, KT M20, KT M21, IM M10, IM M12, DW M28</i>

Flow Diagram LM 2 – Vegetation Clearance



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Forest Harvesting and Forestry Earthworks

LM R11 (Rule 3) Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017.

LM R12 (Rule 3A) Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017.

*Clearance of Vegetation by Burning***LM R13 (Rule 4) Permitted – Clearance of Vegetation by Burning**

The disturbance of land and soil resulting from the clearance of vegetation by burning is a permitted activity subject to the following conditions:

- (a) The activity shall not exceed the permitted limits specified in Table LM 7.
- (b) The activity shall be undertaken using best management practices to ensure that burns are of low intensity and avoid loss of soil structure and nutrients.
- (c) There shall be no point source discharge of sediment contaminated stormwater to surface water from the activity.
- (d) The diffuse discharge of sediment contaminated stormwater to surface water from the activity shall not cause the following effects, except where a 20% AEP flood event is exceeded:
 - (i) The production of any conspicuous oil, grease films, scums or foams, or floatable or suspended solids.
 - (ii) Any conspicuous change in colour or visual clarity.
 - (iii) Any emission of objectionable odour.
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals.
 - (v) Any more than minor adverse effects on aquatic life.
- (e) The activity shall not cause or induce erosion to land or the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (f) The activity shall not disturb vegetation in a wetland; or change the water flow or quantity, or quality in a wetland.
- (g) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (h) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (i) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.

Table LM 7 Permitted Limits for Clearance of Vegetation by Burning

	General Area	Location	Land Slope	Distance from surface water body as measured from the edge of the surface water body	Permitted Burn Area
(a)	In the upper Rangitaiki River catchment above the confluence of the Otangimoana Stream and Rangitaiki River, including the Otamatea River catchment.	(i) On the margins of erosion susceptible permanent streams and rivers, or (ii) In the beds and margins of ephemeral streams and rivers, or (iii) On steep terrace edges, as shown in Regional Council Plan Series M1009 ¹ .	Any slope	N/A	All discretionary
(b)	Coastal margin	Refer to Definition of Terms	Any slope	0-40 metres from Coastal Marine Area	All discretionary
(c)	Sand Dune Country	Refer to Definition of Terms	Any slope	N/A	All discretionary
(d)	Riparian Management Zone – Rotorua Lakes	Rotorua Lakes (refer to Refer to Definition of Terms)	0 to 15°	Between 0-20 horizontal metres of the lake	All discretionary
			>15 to 25°	Between 0-25 horizontal metres of the lake	
			>25 to 35°	Between 0-40 horizontal metres of the lake	
			>35°	Between 0-40 horizontal metres of the lake	
(e)	Riparian Management Zone – excluding (d)	All streams, rivers, wetlands, and lakes not specified in (d)	0 to 7°	Between 0-5 horizontal metres of the water body	
			> 7 to 15°	Between 0-10 horizontal metres of the water body	
			> 15 to 25°	Between 0-20 horizontal metres of the water body	
			> 25 to 35°	Between 0-25 horizontal metres of the water body	
			> 35°	Between 0-40 horizontal metres of the water body	

	General Area	Location	Land Slope	Distance from surface water body as measured from the edge of the surface water body	Permitted Burn Area
(f)	Rangitaiki catchment southward on State Highway 38, excluding the area specified in (a), and carried out within the period of 1 March to 30 May in any year		0 to 7°	Greater than 50 metres from a surface water body	No greater than 50 hectares of logging slash from untended stands of minor species ²
			> 7 to 15°	N/A	
(g)	Not in (a) to (f)		0 to 15°	N/A	No greater than 5 hectares
			16 to 40°	N/A	Isolated burns no greater than 50 m ²

Notes:

1 The photomap plan series M1009 prepared by the Regional Council at a scale of 1:25,000 shows the location of the beds and margins of the relevant land areas and ephemeral flowpaths that are covered by definition points (a)(i) to (iii) in Table LM 7. Copies of these maps are available from or may be viewed at any Regional Council office.

2 Minor species include all other exotic pine species except for the predominant species of *Pinus radiata* and Douglas fir. The main plantings of ‘minor’ species are of *P. contorta*, *P. nigra* and small areas of southern pines (i.e. *P. elliotti* and *P. carabea* etc.).

Advisory Note

- 1 Refer to Flow Diagram LM 4 to assist reading of this rule.
- 2 Restrictions on burning are also contained in the Operative Bay of Plenty Regional Air Plan.
- 3 The burning of vegetation may also require a permit from the relevant fire control authority; and a consent from the relevant district council.
- 4 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow small-scale, low risk clearance of vegetation by burning subject to the general permitted activity conditions that avoid or mitigate adverse effects on soil and water resources.

LM R14 (Rule 4A) Discretionary – Clearance of Vegetation by Burning

The disturbance of land and soil resulting from the clearance of vegetation by burning that is not a permitted activity in accordance with LM R13 is a discretionary activity.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

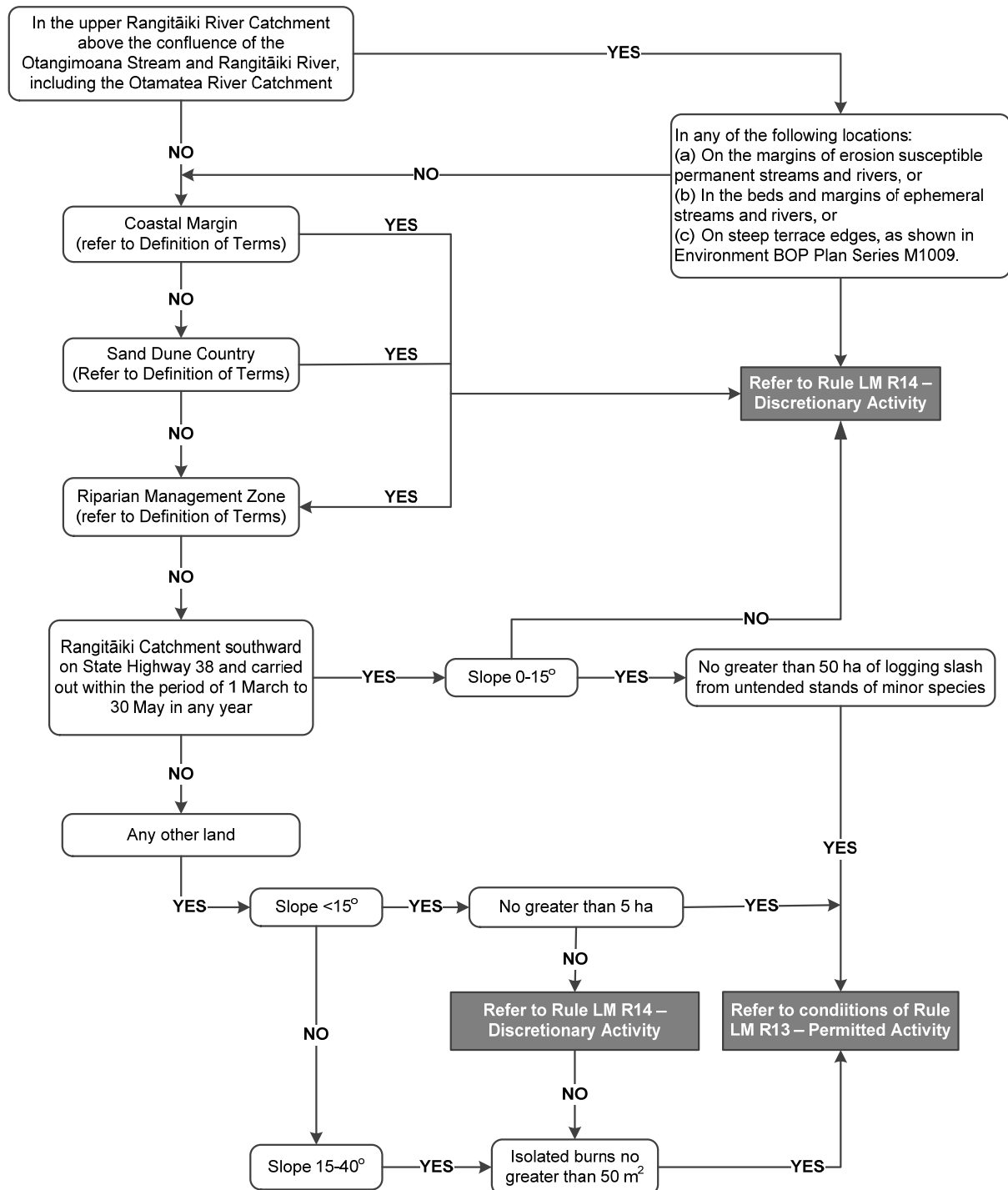
To allow the Regional Council to assess the adverse environmental effects of land disturbance activities on a case by case basis, where the activity is likely to cause more than minor effects, including activities in high risk locations. Refer to Flow Diagram LM 4 to assist reading of this rule.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	<i>KT O4, KT O5, LM O1, LM O2, LM O3, LM O5, DW O9, DW O12</i>
<i>Policy</i>	<i>KT P5, KT P14, KT P15, KT P17, KT P18, KT P20, IM P1, DW P15, DW P18</i>
<i>Method</i>	<i>KT M13, KT M20, KT M21, IM M10, IM M12, DW M28</i>

Flow Diagram LM 4 – Clearance of Vegetation by Burning



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Cultivation**LM R15 (Rule 5) Permitted – Cultivation**

The disturbance of land and soil resulting from cultivation is a permitted activity subject to the following conditions:

- (a) The activity shall not be carried out in any of the areas in Table LM 8:

Table LM 8 *Locations Where Cultivation is Not Permitted (Discretionary activity under Rule LM R16)*

	General Area	Location	Land Slope	Distance from surface water body as measured from the edge of the surface water body
(a)	On any land where the dominant slope is equal to or greater than 25 degrees	Land not otherwise specified in (b) to (e).	Greater than 25 degrees.	N/A
(b)	Erosion Hazard Zone	Refer to Definition of Terms	Refer to Definition of Terms	N/A
(c)	Coastal Margin	Land on the edge of an estuary, harbour, or the open rocky coast.	Greater than 25 degrees.	Between 0-10 metres horizontal distance from the Coastal Marine Area
(d)	Riparian Management Zone – Rotorua Lakes	Rotorua Lakes (refer to definition)	0 to 7°	Between 0-5 horizontal metres of the lake
			>7 to 15°	Between 0-10 horizontal metres of the lake
			>15 to 25°	Between 0-10 horizontal metres of the lake
(e)	Riparian Management Zone – Schedule 1 streams and rivers	Streams and rivers listed in Schedule 1	>0 to 7°	Between 0-5 horizontal metres of the water body
			>7 to 15°	Between 0-5 horizontal metres of the water body
			>15 to 25°	Between 0-10 horizontal metres of the water body
(f)	Riparian Management Zone - other lakes not specified in (d), wetland, stream or river not listed in Schedule 1	All streams and rivers not listed in Schedule 1, wetlands and lakes not in (d)	0 to 7°	Between 0-3 horizontal metres of the water body
			> 7 to 15°	Between 0-5 horizontal metres of the water body
			> 15 to 25°	Between 0-10 horizontal metres of the water body

- (b) There shall be no point source discharge of sediment contaminated stormwater to surface water from the activity.
- (c) The diffuse discharge of sediment contaminated stormwater to surface water from the activity shall not cause the following effects, except where a 20% AEP flood event is exceeded:
- (i) The production of any conspicuous oil, grease films, scums or foams, or floatable or suspended solids.
 - (ii) Any conspicuous change in colour or visual clarity.
 - (iii) Any emission of objectionable odour.

- (iv) The rendering of fresh water unsuitable for consumption by farm animals.
- (v) Any more than minor adverse effects on aquatic life.
- (d) The activity shall not cause or induce erosion to land or to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks or the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (e) The activity shall not disturb vegetation in a wetland; or change the water flow or quantity, or quality in a wetland.
- (f) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (g) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (h) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be discharged to water, or discharged to land in circumstances where the contaminant may enter water, from the activity.
- (i) Cultivation shall be undertaken across the contour of the land.
- (j) A permanent vegetation cover shall be retained to provide a sediment filter between the cultivation activity and the edge of the river, stream, wetland or lake.

Advisory Note

- 1 Best management practices, including appropriate cropping, silt traps, silt fences, or bunding, can be used to maintain optimal sediment filtration across the riparian strip.
- 2 LM R15 does not regulate no-tillage cultivation practices, and direct seed drilling (refer to Definition of Terms for further exclusions).
- 3 The Riparian Management Zone in LM R15 does not apply to artificial watercourses or ephemeral flowpaths (refer to Definition of Terms).

Explanation/Intent of Rule

To allow cultivation as part of normal farming practices in areas that do not present a high risk to the environment. Refer to Flow Diagram LM 5 to assist reading of this rule.

LM R16 (Rule 5A) Discretionary – Cultivation

The disturbance of land and soil from cultivation that is not a permitted activity in accordance with LM R15, is a discretionary activity.

Explanation/Intent of Rule

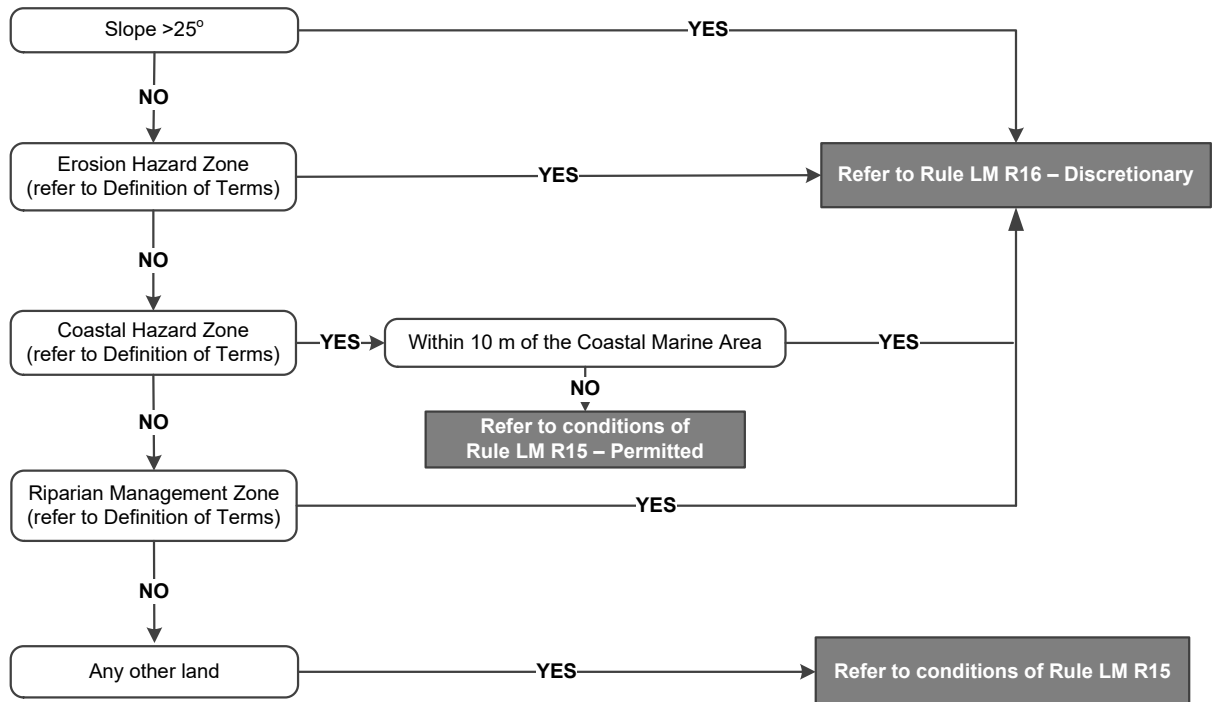
To allow the Regional Council to assess the adverse environmental effects of land disturbance activities on a case by case basis, where the activity is likely to cause more than minor effects, including activities in high risk locations.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	<i>KT O4, KT O5, LM O1, LM O2, LM O3, LM O5, DW O9, DW O12</i>
<i>Policy</i>	<i>KT P5, KT P14, KT P15, KT P17, KT P18, KT P20, IM P1, DW P15, DW P18</i>
<i>Method</i>	<i>KT M13, KT M20, KT M21, IM M10, IM M12, DW M28</i>

Flow Diagram LM 5 – Cultivation



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

LM R17 (Rule 10) Permitted – Grazing of Land

The disturbance of land, soil and ephemeral flowpaths and artificial watercourses by the grazing of stock is a permitted activity subject to the following conditions:

- 1 The activity complies with the following standards:
 - (a) The activity shall not cause or induce erosion to land or to the banks of a surface water body where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of a river, stream, lake or wetland.
 - (ii) Scour to the bed of a river, stream, lake or wetland.
 - (b) The grazing of stock shall be managed to avoid the point source discharge of surface runoff containing accumulated stock faecal material into a stream, river, lake or wetland. This excludes dairy effluent discharges that are addressed under resource consent.
 - (c) All practicable steps shall be taken to avoid, remedy or mitigate the increase of nutrient, urine or faecal matter, or sediment in water within artificial watercourses resulting from stock access or crossing of artificial watercourses.
 - (d) Grazing of stock in the riparian area of a stream, river, lake or wetland shall be managed to maintain sufficient vegetation cover to provide a filter between land and the surface water body;

Or

The landowner implements, maintains and complies with an active Farm Quality Programme that addresses the adverse effects of grazing in a manner that complies with the provisions of this regional plan. A Farm Quality Programme can be any one of the following:

- (a) An operative Environmental Programme or Property Plan; or
- (b) An operative Quality Assurance Programme with a robust environmental component that is operated by an appropriate sector of the farming industry that is listed in Schedule 8; or
- (c) A specific, operative environmental management plan for an area of land that is listed in Schedule 8.

Explanation/Intent of Rule

To control the adverse environmental effects of grazing. This rule is a pragmatic, equitable and practicable means of addressing the adverse effects of the activity. The Regional Council prefers landowners to comply with the permitted rule conditions rather than having to require a resource consent. Any grazing that is not permitted by LM R17 is a discretionary activity under LM R18. Farm Quality Programmes listed in Schedule 8 comply with WQ M10.

LM R18 (Rule 10A) Discretionary – Grazing of Land

The disturbance of land, soil and ephemeral flowpaths by the grazing of stock that is not permitted by LM R17 is a discretionary activity.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of land disturbance activities on a case by case basis, where the activity is likely to cause more than minor effects.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

Objective LM O2, TH O1, RL O3, OH O1, LM O3, LM O4
Policy 21

Contents

DW Discharges to Water and Land1

Discharge of Contaminants to Water

Issues	1
Objectives.....	3
Policies	4
Methods of Implementation	7
Rules.....	9

Discharge of Contaminants to Land

Issues	16
Objectives.....	18
Policies	18
Methods of Implementation	19
Rules.....	19

Discharge of Stormwater

Issues	29
Objectives.....	32
Policies	32
Methods of Implementation	33
Rules.....	36

Contaminated Land

Issues	41
Objectives.....	42
Policies	42
Methods of Implementation	42
Rules.....	44

OSET On-Site Effluent Treatment 47

DW Discharges to Water and Land

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

This section addresses the adverse effects of point source discharges of contaminants to water, discharges of water to water, and discharges of contaminants onto or into land where the contaminant may enter water as controlled by section 15 of the Act.

The discharge of contaminants to water in estuaries, harbours or the open coast is subject to the conditions in the Bay of Plenty Regional Coastal Environment Plan.

Discharges of geothermal fluid to water or into or onto land are addressed by the provisions in the Geothermal Resources section of this regional plan. Discharges of geothermal fluid to surface water bodies may also be subject to the relevant provisions of this section of the regional plan.

Discharges of stormwater (including surface runoff from roads) is considered to be a discharge of contaminants, which is addressed in this section of the regional plan.

Sediment is defined as a contaminant if it is discharged to water, or to land where it may enter water, as it may have adverse effects on water quality and aquatic biota. However, sediment is not considered to be a contaminant in all situations. Sediment is not considered to be a contaminant in this section of the regional plan where it is discharged to land and the sediment does not enter a surface water body. Sediment discharge to land will be considered as a contaminant only where the sediment contains another substance that changes or is likely to change the physical, chemical or biological condition of the land onto or into which it is discharged.

Discharges of Contaminants or Water to Water

Issues

DW I1 (Issue 18) **Discharges of contaminants to water have the potential to degrade water quality below that necessary to sustain heritage values and allow for use of water by the community, and degrade the mauri of the water body.**

Matters relating to the discharge of contaminants to water that are of particular concern in the Bay of Plenty region are:

- 1 Degradation of the mauri of water bodies. Tangata whenua believe that the use and cultural values of rivers, streams and lakes are adversely affected where contaminant discharges degrade the mauri of a water body. The discharge of sewage to water may be particularly culturally offensive to Maori.
- 2 Discharges of contaminants to water are increasingly unacceptable to the community. People are becoming more informed about the consequences of discharges of contaminants to water and are less tolerant of subsequent water degradation. This is particularly true where water is used for wastewater disposal. Industries are also becoming more sensitive to the market consequences of their environmental performance.

- 3 The discharge of untreated wastes into water, the beds of rivers, stream, lakes and wetlands, and riparian areas. Car bodies and household wastes are being dumped alongside rivers and streams in the region, as particularly evident in the Western Bay of Plenty. Discharges of untreated sewage from boats can be a problem.
- 4 The discharge of persistent toxic contaminants that can accumulate in receiving environments (including soil and water). Some of the Rotorua lakes and Tauranga Harbour are at particular risk of accumulating contaminants, including sediment and heavy metals. Accumulating sediment is a particular risk in estuaries and harbours, including Ohiwa Harbour.
- 5 The cumulative effects of many, small-scale, point source discharges of contaminants to water on water quality. Many relatively small-scale discharges of contaminants can cumulatively cause significant adverse environmental effects, and are usually more difficult to address than single, larger discharges.
- 6 Discharges of contaminants to water have the potential to degrade the life-supporting capacity of aquatic ecosystems.

Adverse effects of discharges of contaminants on water quality can include:

- (a) Increased levels of bacteria, sediment, nutrients, heavy metals or other contaminants.
- (b) Decreased levels of dissolved oxygen.
- (c) Changes to the clarity or colour of the water.
- (d) Increases in water temperature.
- (e) Changes to the visual appearance of the water body as a result of oil, grease films, scums, foams, or floatable or suspended materials.
- (f) Odour.
- (g) Changes to the mauri of the water body.
- (h) Degradation of water quality below that necessary to sustain use by the downstream community, including instream uses (e.g. recreational use) and abstractive uses (e.g. stock watering and domestic use).
- (i) Degradation of water quality below that necessary to sustain the life-supporting capacity of the water body, including adverse effects on aquatic life.

<i>Objective</i>	DW O1, DW O3, DW O5, DW O6
<i>Policy</i>	DW P1, DW P4, DW P5, DW P12, DW P7, DW P8, DW P10, DW P11
<i>Method</i>	LM M18, IM M10, IM M23, DW M1, DW M2, DW M3, DW M4, DW M19, DW M20, DW M7, DW M21, DW M8, DW M9, DW M11, DW M12, DW M13, DW M14, DW M15, DW M16, DW M17, DW M18
<i>Rule</i>	DW R1, DW R2, DW R3, DW R5, DW R20, DW R7, DW R8
<i>Schedule</i>	9

DW I2 (Issue 19) **The discharge of water to water has the potential to:**

- (a) Lead to the flooding of property.
- (b) Adversely affect Maori cultural values where there is a discharge of water into another catchment. Effects on Maori cultural values should be assessed on a case by case basis with tangata whenua of the activity site.
- (c) Cause the erosion of the beds of surface water bodies.
- (d) Adversely affect ecological values.

<i>Objective</i>	DW O4
<i>Policy</i>	DW P9
<i>Method</i>	LM M18
<i>Rule</i>	DW R3, DW R5, DW R6, DW R8

DW I3 (Issue 21) **Spills of hazardous substances to the environment can contaminate land and water, damage aquatic and terrestrial ecosystems, adversely affect users of affected water bodies, and present a risk to public health.**

Inadequate provision for the safe storage and handling of hazardous substances can increase the risk of adverse effects on the environment due to hazardous spills, ignorance of spill detection, and inadequate emergency response procedures.

Objective DW O2
Policy DW P2, DW P3
Method DW M5, DW M6, DW M20, DW M9, DW M11
Rule DW R8

Objectives

- DW O1 (Objective 23) Discharges of contaminants to water are managed to meet the following goals:
- (a) After reasonable mixing, discharges of contaminants to lakes, streams and rivers meet the water quality classification of the receiving water bodies as a minimum; and have no more than minor adverse effects on heritage values, existing users in downstream areas, and lakes, harbours and estuaries.
 - (b) Discharges of contaminants to water are in a manner that takes into account the cultural values of tangata whenua acknowledged for that area.
- DW O2 (Objective 24) Increased level of:
- (a) Contingency planning by users of hazardous substances to prevent unauthorised discharges of hazardous substances.
 - (b) Emergency response to manage the impact of unauthorised discharges of hazardous substances.
- DW O3 (Objective 25) Prevent the accumulation of persistent toxic contaminants in the environment, particularly in lakes, estuaries and harbours and their catchments.
- DW O4 (Objective 27) Discharges of water to water avoid, remedy or mitigate adverse effects on the environment as appropriate to the values, uses and existing environmental quality of the activity site.
- DW O5 (Objective 28) Cumulative effects of small-scale discharges of contaminants to water and land are managed appropriately to avoid, remedy or mitigate adverse effects on water quality (including coastal waters), and soil health and ecosystems.
- DW O6 (Objective 29) Prevent the following discharges of contaminants to the environment:
- (a) The discharge of untreated sewage to water.
 - (b) The discharge of petroleum hydrocarbons to land as dust suppressants.
 - (c) Fly-tipping of wastes, including car bodies and household rubbish, and agricultural wastes to the beds of streams, rivers, lakes or wetlands, and riparian areas of these water bodies, and coastal margins.
- Cross-Reference Also refer to KT O6, IM O1, RL O1, IM O3, IM O4, IM O5, IM O6 and LM O4.

Policies

DW P1 (Policy 38) Discharges of contaminants to water are to comply with the following requirements:

Table DW 1 Contaminant Discharge Requirements

	Receiving Environment	Discharge Requirement
(a)	Lakes	<ul style="list-style-type: none"> (i) Direct discharges of contaminants to lakes are discouraged, while allowing for minor discharges that are unlikely to have adverse effects on water quality. (ii) There shall be no net increase of nitrogen or phosphorus in lake catchments. This does not preclude the use of nutrient trading within the same lake catchment to achieve this policy. (iii) Where discharges are made directly to lakes, the discharge is to: <ul style="list-style-type: none"> • Meet the water quality classification of the lake after reasonable mixing. • Avoid, remedy or mitigate adverse effects on heritage values and existing users of the lake. This will include implementing appropriate treatment and mixing methods for the discharge.
(b)	Rivers and streams	<ul style="list-style-type: none"> (i) Discharges of contaminants to streams and rivers with Water Supply or Natural State (river) water quality classifications are avoided where practicable. (ii) Discharges to rivers and streams are to: <ul style="list-style-type: none"> • Meet the water quality classification of the stream or river after reasonable mixing. (a) Avoid, remedy or mitigate adverse effects on heritage values and existing users in downstream areas. This may include consideration of appropriate mixing methods for the discharge. (iii) For discharges to rivers and streams that are tributaries of lakes, there shall be no net increase of nitrogen or phosphorus in lake catchments. Full regard will be given to the effect on the TLI of the lake, including cumulative effects. (iv) For discharges to rivers and streams that flow directly to the open coast, or are tributaries of harbours and estuaries, the effect on the water quality of coastal waters will be given full regard. This includes cumulative effects. (v) For discharges to streams that are not shown on the 1:50,000 Water Quality Classification Maps, the discharge shall comply with the Regional Baseline water quality classification as a minimum, subject to an assessment of the appropriate water quality classification in accordance with IM M26. Where the assessment determines an appropriate water quality classification, the discharge will be considered relative to the higher water quality classification. (vi) Where a river or stream has more than one water quality classification along its length, a discharge will be assessed relative to the water quality classification at the point of discharge, as shown on the Water Quality Classification map. (vii) The owners or operators of hydroelectric generation dams are required to gain resource consent for the discharge of contaminants associated with dredging activities and extraction of bed materials necessary to maintain the function of the dam. Dam owners and operators are not responsible for contaminants discharged within the catchment above the dam.
(c)	Ephemeral flowpaths	Discharges of contaminants to ephemeral flowpaths will be considered to be discharges to land, or discharges to land where the contaminant may enter water, whichever is appropriate to the individual circumstances.

Note:

- 1 Refer to IM O3 and IM P1(a), (b), (c) and (g) for the intent of this regional plan to manage water quality to meet specific water quality classification standards and criteria.

- 2 In relation to DW P1(b)(v), a 1:250,000 scale water quality classification map is attached to this regional plan for information purposes. The same map has also been prepared at 1:50,000 scale, and resource users are advised to consult this scale map to accurately determine what water quality classification applies to a proposed discharge. Copies of the 1:50,000 scale water quality classification maps can be obtained from the Regional Council, including electronic copies.
- DW P2 (Policy 39) To require contingency plans for the prevention, detection, containment and remediation of unauthorised discharges of any hazardous substance which may adversely affect water quality, or result in the long-term contamination of soil or groundwater.
- DW P3 (Policy 40) To participate with other organisations to develop and implement processes to minimise the adverse effects of unauthorised discharges of hazardous substances on the environment.
- DW P4 (Policy 41) To encourage the change from the discharge of contaminants to water to the land-based treatment and disposal of contaminants, where this is environmentally sustainable.
- DW P5 (Policy 42) To recognise and provide for the effects on the mauri of the receiving environment caused by the discharge of contaminants to water by:
- (a) Where appropriate, encouraging early and ongoing consultation with tangata whenua during the consideration of wastewater treatment systems to take into account the cultural values of tangata whenua acknowledged for that area.
 - (b) Where reasonable and practicable to do so, take steps to promote better use of freshwater by discouraging disposal of toxic materials via wastewater systems.
 - (c) Encouraging a shift to land based treatment and disposal systems, where appropriate and environmentally sustainable and socially, technically and economically feasible. This includes disposal of sewage by passage through land, soil or wetlands.
 - (d) Avoid, remedy or mitigate adverse effects on water, land and geothermal resources or sites that are of significance to tangata whenua, where such resources or sites have been identified by tangata whenua.
 - (e) Avoiding physical degradation of the life-supporting capacity of receiving waters.
- DW P6 (Policy 43A) When considering any application for a discharge the consent authority must have regard to the following matters:
- (a) the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water; and
 - (b) the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided; and
 - (c) the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with fresh water; and
 - (d) the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.

This policy applies to the following discharges (including a diffuse discharge by any person or animal):

- (a) a new discharge; or
- (b) a change or increase in any discharge –
of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

Paragraph 1 parts a. and b. of this policy do not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management takes effect on 1 July 2011.

Paragraph 1 parts c. and d. of this policy do not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect on 1 August 2014.

Note: This policy was inserted to meet the requirements of the National Policy Statement for Freshwater Management 2011.

Note: This policy was amended to meet the requirements of the National Policy Statement for Freshwater Management 2014.

DW P7 (Policy 45)	<p>To consider requiring a bond or an acceptable alternative for any point source discharge of contaminants from industrial or trade premises where the contaminant is a hazardous substance, and the scale, intensity, duration or frequency of the effects of the discharge have a high probability or high potential to cause the long-term contamination of soil, or adverse effects on water quality and aquatic ecosystems.</p> <p>The amount of the bond will be sufficient to cover the future costs of site remediation, and will take into account the long-term management and monitoring of the activity site. Bond will be administered according to section 108A of the Act.</p>
DW P8 (Policy 46)	<p>To avoid the adverse effects on the environment caused by:</p> <ul style="list-style-type: none"> (a) Discharges of petroleum hydrocarbons to land where such products are used as dust suppressants. (b) Dumping of car bodies on the beds of rivers, lakes or wetlands. (c) Deposition of waste onto the beds of rivers and lakes and wetlands, or on land where by-products may enter water. (d) Discharge of untreated sewage to the environment, including discharges from boats into lakes and rivers.
DW P9 (Policy 47)	<p>To avoid, remedy or mitigate the adverse effects of discharges of water to water on:</p> <ul style="list-style-type: none"> (a) Flooding. (b) Any relevant Maori cultural values. (c) Stability of the beds and banks of the receiving water body. (d) Ecological values.
DW P10 (Policy 48)	<p>To encourage, as appropriate, discharge activities to comply with current best engineering practices and best practicable options to avoid or mitigate adverse effects on the environment so that the requirements of this regional plan and other Regional Council requirements are met. Best engineering practices are relevant where the scale, intensity and potential adverse effects require such engineering practices.</p>
DW P11 (Policy 49)	<p>To set a reasonable mixing zone in conditions of resource consents to discharge contaminants to water where relevant, having regard to the criteria specified in DW M16.</p>
<u>Cross-Reference</u>	<p>Also refer to Policy 77, KT P11, IM P1.</p>

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

- DW M1 (Method 97) Provide information to the community on the known environmental effects of discharges of contaminants to water and land.
- DW M2 (Method 98) Encourage the use and appropriate management of land based treatment and disposal systems, including artificial wetlands, where these systems are proven to be effective to treat and absorb contaminants, are economically and technically feasible, and are appropriate to the local environment.
- DW M3 (Method 99) Encourage the development and implementation of methods to reduce the volume and toxicity of wastewater, including:
- (a) The avoidance and reduction of the production of wastes.
 - (b) Reuse and recycling of wastes, and recovery of by-products.
 - (c) Closed loop industrial systems.
 - (d) Best practicable options.
 - (e) Codes of practice or industry guidelines.
 - (f) Environmental management systems.
 - (g) Appropriate treatment of wastewater.
 - (h) Recovery of by-products.
- DW M4 (Method 100) Raise community awareness about the correct disposal of wastes, and adverse environmental effects of inappropriate discharges of contaminants to land or water. This may be carried out in conjunction with city and district councils, where appropriate.

Working With Other Resource Management Agencies and the Community

- DW M5 (Method 102) Participate in the Hazardous Substances Technical Liaison Committees.
- DW M6 (Method 103) In conjunction with city and district councils, raise community awareness of the significant adverse effects on land and water resources from the inappropriate use, storage and disposal of hazardous substances.
- DW M7 (Method 105) Liaise with city and district councils on the provision of signage at boat launch sites to inform the community of the prohibition on discharging sewage and other wastes from boats or any other source, on rivers and lakes.

Advocacy

- DW M8 (Method 107) Advocate that city and district councils provide facilities for appropriate disposal of waste from boats, motor caravans and caravans at boat launching sites and other appropriate locations, and an analysis will be carried out in conjunction with city and district councils for each possible site.

Regulatory Methods

Cross-Reference Also refer to LM M18

Matters Relevant to Resource Consent Applications and Processing

- DW M9 (Method 108) Require a contingency plan for the management of hazardous substances where a resource consent is required for:
- (a) A discharge of contaminants to water,
 - (b) A discharge of contaminants to land where the contaminant or its by-products may enter water, or
 - (c) A discharge of contaminants to land,
- and the contaminant is a hazardous substance that poses or is likely to pose an immediate or long-term hazard to human health or ecosystems.
- DW M10 (Method 109) Consider requiring the monitoring of adverse effects of discharges of contaminants to land where the contaminant may enter water, or groundwater and adjacent surface water, relative to the scale or environmental risk. This will be carried out as a condition of resource consent, in relation to compliance monitoring requirements under section 108 of the Act.
- DW M11 (Method 110) Require a hazardous waste disposal mapping system to be used for landfill sites that have been authorised to accept hazardous wastes for disposal. The monitoring system will document where the hazardous wastes have been disposed of within the site.
- DW M12 (Method 111) Where appropriate, require landfill consent holders, excluding sawdust and bark dumps and cleanfill sites, to comply with:
- (a) 'Landfill Guidelines: Towards Sustainable Waste Management in New Zealand', Centre for Advanced Engineering, April 2000¹⁵, as minimum criteria for construction and operation.
 - (b) 'A Guide to the Management of Closing and Closed Landfills in New Zealand', Ministry for the Environment, May 2001¹⁶, as minimum criteria for de-commissioning and aftercare.
- DW M13 (Method 112) Apply, as appropriate, 'A Guide to Landfill Consent Conditions', Ministry for the Environment, May 2001¹⁷, when setting resource consent conditions for new landfills. The recommendations in the guide will be considered in relation to specific issues of the proposed site.
- DW M14 (Method 113) Require the appropriate management of leachate to avoid adverse effects on water quality and soil health, with regard to:
- (a) Location.
 - (b) Site design and management.
 - (c) Reuse or on-site re-circulation of leachate.
 - (d) Treatment systems.
 - (e) Leachate composition.
 - (f) Sensitivity of the surrounding environment.
 - (g) Alternative disposal options.
- DW M15 (Method 114) Consider requiring a waste minimisation plan or waste management programme to form part of any resource consent application for a discharge from a trade or industrial process to water, or to land where the contaminant or its by-products may enter water, or land, if the discharge:
- (a) Contributes a significant volume to the receiving environment. This will be measured against the Q₅ 7day low flow (where the discharge is to a stream or river), the reasonable mixing zone of the discharge.
 - (b) Has the potential to have significant adverse effects on water quality. This will be measured against the water quality classification of the receiving environment.

¹⁵ Centre for Advanced Engineering, April 2000. Landfill Guidelines: Towards Sustainable Waste Management in New Zealand.

¹⁶ Ministry for the Environment, May 2001. A Guide to the Management of Closing and Closed Landfills in New Zealand. Ministry for the Environment.

¹⁷ Ministry for the Environment, May 2001. A Guide to Landfill Consent Conditions. Ministry for the Environment.

- (c) Has the potential to have significant adverse effects on the life-supporting capacity of soil, or has potential to cause the long-term contamination of land.

The waste minimisation plan or waste management programme must be of sufficient detail to comply with sections 88(4)(b), 88(4)(c), 88(6)(b), and Fourth Schedule of the Act.

- DW M16 (Method 115) Define the length or radius of a reasonable mixing zone in the conditions of a resource consent for the point source discharge of contaminants to a surface water body having regard to the following assessment criteria:
- (a) The best practicable option to minimise the length or radius of the reasonable mixing zone.
 - (b) The water quality classification of the receiving water body (refer to the Water Quality Classification Map), and the relevant water quality classification standard in Schedule 9.
 - (c) The flow regime of the receiving water.
 - (d) The ambient concentrations of contaminants in the receiving water.
 - (e) Effluent discharge flow rate and contaminant concentrations.
 - (f) Existing discharge and abstraction consents.
 - (g) Fish migration and aquatic ecosystems requirements.
 - (h) The values and existing uses of the water body.
 - (i) Maori cultural values (refer to DW P5).
 - (j) Proximity to bathing sites, especially those listed in Schedule 10.
 - (k) Adverse environmental effects of the discharge, including cumulative effects in relation to (a) to (j).
 - (l) The location of the discharge and position of the outfall.
 - (m) Outfall diffuser design criteria.
 - (n) Information provided by the applicant.
 - (o) Any other information relevant to the nature of the discharge and the site characteristics.

Cross-Reference

Also refer to KT M17, KT M18, LM M15, IM M10, LM M22.

Monitoring and Investigation of the Environment

- DW M17 (Method 116) Use state of the environment and impact monitoring information to identify areas where the cumulative effects of discharges of contaminants to land or water are having adverse environmental effects.
- DW M18 (Method 117) Investigate the effects of discharges of water from land drainage schemes on the water quality of the receiving environment, where adverse environmental effects are evident and such investigations are necessary.

Cross-Reference

Also refer to Method IM M15, IM M16, IM M20, IM M23.

Rules

Advisory Note

- 1 The air-borne component of any discharge (including, but not limited to, odour, dust, particulates and the burning of waste) must comply with the Operative Bay of Plenty Regional Air Plan.
- 2 The rules in this regional plan do not authorise the modification or disturbance of any archaeological, or registered waahi tapu sites within the area of the activity. Written authority from Heritage New Zealand Pouhere Taonga is required prior to any destruction, damage or modification of an archaeological or registered waahi tapu site or an area where there is reasonable cause to suspect there is an archaeological site. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should

- be obtained from Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.
- 3 Abrasive blasting is addressed by the provisions of the Operative Bay of Plenty Regional Air Plan, which requires the material from the activity to be collected. A resource consent is needed under this regional plan if there is a discharge of contaminants to water, or a discharge of contaminants to land where the contaminant may enter water, resulting from the activity.
- 4 For the avoidance of doubt, the Riparian Management Zone or Riparian Area in DW R12 does not apply to areas of land adjacent to ephemeral flowpaths and artificial watercourses.
- 5 DW R20, DW R21, DW R22 and DW R23 regulate the point source discharge of stormwater to water or land.

DW R1 (Rule 16) Permitted – Discharge of Aquatic Herbicide Over Water for Weed Control

The discharge of aquatic herbicide over water for the purpose of spraying emergent aquatic weeds, where the discharge is incidental to the activity,

is a permitted activity subject to the following conditions:

- (a) The application of aquatic herbicide shall only be for the purpose of controlling:
 - (i) Plant pest species listed in the 'Plant Pest Management Strategy for the Bay of Plenty Region', or the National Plant Pest Accord in rivers, streams, lakes and wetlands.
 - (ii) Any vegetation necessary for the maintenance of artificial watercourses, farm drains, roadside drains, and Land Drainage Canals.
- (b) Only aquatic herbicides that have been approved for use over water shall be used. Herbicides are approved under Section 21 of the Pesticides Act 1979, or when repealed, by the Hazardous Substances and New Organisms Act 1996 when enabled and operational.
- (c) The aquatic herbicide shall be discharged in a manner that is consistent with the manufacturer's instructions.
- (d) The discharge shall not result in any fish kills.
- (e) The discharge shall not contaminate any authorised water take.
- (f) The discharge shall not result in any harmful concentration of aquatic herbicide beyond the target area.
- (g) There shall be no discharge of aquatic herbicide in the tidal reach of any surface water body between 1 March and 31 May.
- (h) The discharge of aquatic herbicide shall comply with the requirements of the Operative Bay of Plenty Regional Air Plan.

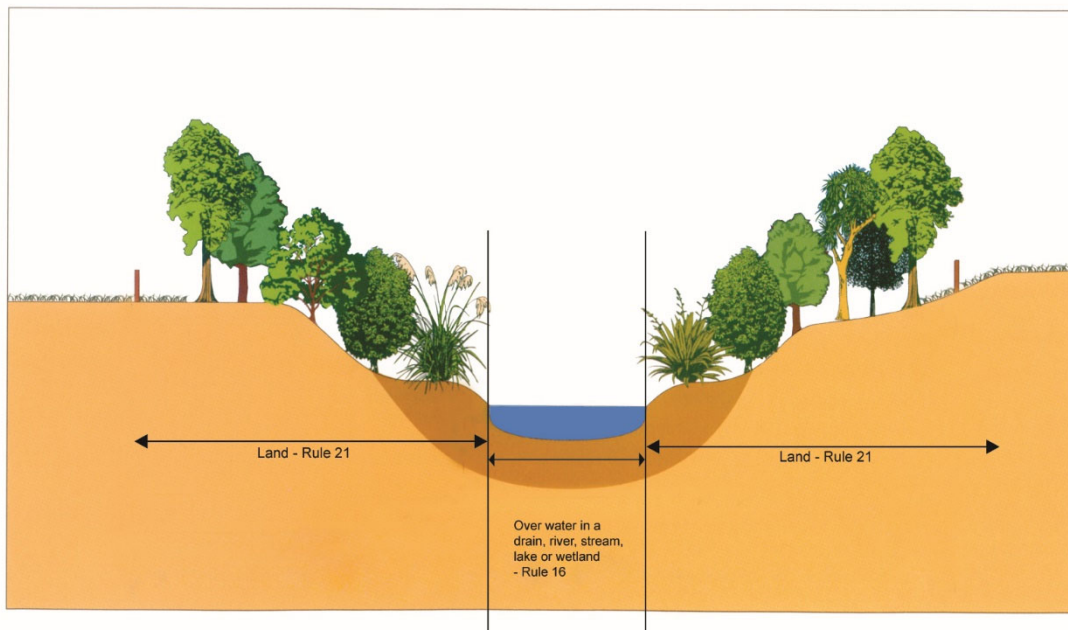
Advisory Note

- 1 In relation to condition (b), the Pesticides Board currently retains this responsibility. However, the responsibility will be transferred to the Environmental Risk Management Authority in the near future.
- 2 Resource users must also comply with Appendix M of the NZS 8409:2004 Management of Agrichemicals, and relevant regulations of the Hazardous Substances and New Organisms Act 1996. Resource users are advised to contact the Regional Council for more information.
- 3 Compliance with conditions (b) and (c) is expected to achieve compliance with (d). Resource users should also manage the extent of the vegetation targeted by the activity so that the amount of dead and rotting vegetation in a water body does not decrease oxygen levels in the water to a level that causes fish kills.
- 4 For other agrichemical applications (other than discharges over water), refer to DW R12 (permitted – application of agrichemicals to land), and the Operative Bay of Plenty Regional Air Plan.

Explanation/Intent of Rule

To permit spraying of emergent weeds on the surface of water bodies. This activity should have less than minor adverse effects on the environment, including areas beyond the activity site, if carried out in compliance with the conditions. It would not be efficient to require resource consents for some plant pest or weed control activities. This rule allows the motorised and non-motorised application of agrichemicals. Condition (g) is to protect spawning areas in tidal reaches of rivers and streams. Refer to Figure DW 1 to explain where DW R1 and DW R12 apply.

Figure DW 1 Coverage of DW R1 and DW R12



Adapted from Taranaki Regional Council, 2001.

DW R2 (Rule 18) Permitted - Discharge of Dye or Gas Tracers

The discharge of dye or gas tracer material, excluding radioisotope tracers, to water for monitoring or research purposes is a permitted activity subject to the following conditions:

- (a) Details of the proposed discharge shall be publicly notified at least one week prior to the discharge being made by a public notice in the local newspaper and/or other recommended methods including letter drops stating:
 - (i) The area where the discharge will be made.
 - (ii) The type of discharge.
 - (iii) The reason for the discharge.
 - (iv) The duration of the discharge.
- (b) The discharge shall not contaminate any authorised water takes.
- (c) The dye or gas shall be inert, and shall be non-toxic in the concentration at which it is to be used.
- (d) The Regional Council and the relevant city or district council shall be notified in writing of the proposed discharge, no less than five working days before the discharge. Such notification shall include:
 - (i) Persons responsible for the discharge including contact details,
 - (ii) Purpose of the tracer programme,
 - (iii) Description of the tracer programme,
 - (iv) Nature of the tracer (i.e. type, colour, product name/description),
 - (v) Discharge location and estimated timing; and
 - (vi) Estimated duration of discharge.

Explanation/Intent of Rule

DW R2 is intended to allow the use of inert dye and tracers for water research, where the activity is expected to have less than minor adverse effects on the environment.

DW R3 (Rule 22) Permitted – Take, Diversion and Discharge of Water from Existing Farm Drains and Pumped Drainage Areas

The:

- 1 Take or diversion of water for land drainage purposes resulting from farm drains and land drainage canals that existed as of 19 February 2002; and
- 2 Discharge of water to a surface water body, where the discharge is from:
 - (a) A pumped drainage area; or
 - (b) A farm drain that existed as of 19 February 2002, where the drain is for land drainage purposes and excludes drains that are part of stormwater systems for urban areas or roading,

Is a permitted activity subject to the following conditions:

- (a) The discharge shall not cause the effects listed in (i) to (v), as measured at a downstream distance of three (3) times the width of the stream or river at the point of discharge:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity, except where the discharge is from peat soils.
 - (iii) Any emission of objectionable odour.
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals.
 - (v) Any more than minor adverse effects on aquatic life.
- (b) The discharge shall not cause or induce erosion to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.

Advisory Note

- 1 Landowners are advised to check with the administrator of the land drainage scheme to which they connect for matters relating to compliance with (a). Land drainage canals may not be able to accept water from drains during flood events.
- 2 For any new discharges of water to water from one drain to another drain within a land drainage scheme, the approval of the administrator of that land drainage scheme must also be gained with regard to the administrator's functions under the Land Drainage Act 1908.
- 3 Modification of a wetland, including drainage, is a discretionary activity under WL R9.
- 4 DW R3 applies to discharges from the cleaning of farm drains. Any discharges of sediment from the activity shall comply with (a).
- 5 For the avoidance of doubt, the conditions in DW R3 apply to discharges of water from existing farm drains and pumped drainage areas at the point at which the discharge enters a stream, Land Drainage Canal (refer to Definition of Terms), or Modified Watercourse.

Explanation/Intent of Rule

To allow the ongoing operation of existing drains and land drainage schemes, including the discharge from both pumped and gravity fed drains. The rule does not permit the discharge of contaminants to water. It is recognised that discharges of

water from drains will contain diffuse source contaminants from land use activities, and discolouration from peat soils. KT M23 will be implemented to investigate if discharges permitted under this rule compromise the water quality classification of the receiving waters. The rule covers artificial drainage and diversion activities, and excludes the flow of water within natural flow-paths. The discharge of water from any new land drainage activity to a surface water body is a discretionary activity.

DW R4 (Rule 23) Permitted – Discharge of Water to Water between Artificial Watercourses

The discharge of water to water where the discharge is from an artificial watercourse to water in another artificial watercourse, is a permitted activity subject to the following conditions:

- (a) The discharge shall not cause or induce erosion to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes instability of land.
- (b) The activity shall not cause flooding or ponding on any land or property owned or occupied by another person, where that land would not naturally carry water during storm or flood events.

Advisory Note

- 1 Where the activity is within a Land Drainage Scheme identified in Schedule 5, landowners are advised to check with the administrator of the land drainage scheme for any necessary permissions. For any new discharges of water to water from one drain to another drain within a land drainage scheme, the approval of the administrator of that land drainage scheme must also be gained with regard to the administrator's functions under the Land Drainage Act 1908.
- 2 For the avoidance of doubt, the conditions in DW R3 apply to discharges of water from existing farm drains and pumped drainage areas at the point at which the discharge enters a stream, river, Land Drainage Canal (refer to Definition of Terms), or modified watercourse.

Explanation/Intent of Rule

To allow for the discharge of water to water where the adverse effects are likely to be no more than minor.

DW R5 (Rule 24) Permitted – Salt Water Flushing of Land Drainage Canals, Artificial Watercourses, and Modified Watercourses

The discharge of salt water to water in a land drainage canal, artificial watercourse or modified watercourse where:

- 1 The canal or watercourse is otherwise controlled by flood control gates or is a pumped system, and
- 2 The activity is for the purposes of salt water flushing as part of land drainage scheme maintenance works for weed control,

Is a permitted activity subject to the following conditions:

- (a) Where the activity is within a Land Drainage Scheme identified in Schedule 5, the activity shall be carried out by the land drainage scheme administrator or its contractor.
- (b) The discharge shall not cause flooding or ponding on any land or property owned or occupied by another person, unless the written approval of the affected person(s) has been obtained.

Explanation/Intent of Rule

To allow the use of a non-mechanical method to control weeds in land drainage canals, artificial watercourses and modified watercourses where the adverse effects are likely to be less than minor, particularly in relation to other mechanical or chemical measures.

DW R6 (Rule 33) Permitted – Discharge of Water to Water

The discharge of water to water where:

- 1 The discharge is the discharge of water to the same surface water body; and
- 2 The water quality is the same as the receiving waters;

Is a permitted activity subject to the following conditions:

- (a) The discharge shall not cause or induce erosion to the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (b) The discharge shall not cause nor contribute to flooding or ponding on any land or property owned or occupied by another person.
- (c) The discharge shall not have an adverse effect on the water quality of the receiving water body.
- (d) The discharge shall not damage or destroy:
 - (i) Significant aquatic indigenous vegetation, or
 - (ii) Aquatic habitats of indigenous species, or
 - (iii) Spawning sites of indigenous species or trout, or
 - (iv) Significant habitats of trout.

as identified in Schedule 1.

Advisory Note

- 1 For the avoidance of doubt, DW R6 applies to discharges of water to water, where the water is abstracted from the surface water body, then discharged back into the same surface water body. DW R6 does not apply to the discharge of water from or within existing farm drains and pumped drainage areas, which is addressed by DW R3 and DW R4 DW R4 applies to the discharge of water to water between artificial watercourses.

Explanation/Intent of Rule

To allow for the discharge of water to water where the adverse effects are likely to be no more than minor. The discharge of water to water in another catchment, or to another water body, or where the water quality is different from the receiving waters, is a discretionary activity under DW R8.

DW R7 (Rule 36) Prohibited – Dumping of Untreated Sewage and Household Wastes, and Discharge of Petroleum Hydrocarbons

Any:

- 1 Discharge of untreated sewage to water in a stream, river or lake, from any source, including a boat.
- 2 Discharge of petroleum hydrocarbons to water, or onto or into land in circumstances where the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) may enter water, where the discharge is a dust suppressant. This does not apply to the sealing of roads, or the extension of road sealing.

- 3 Unauthorised dumping or fly-tipping of:
- (a) Car bodies.
 - (b) Hazardous substances and their containers that pose or are likely to pose an immediate or long term hazard to human health, ecosystems, water quality, or the life-supporting capacity of soil.
 - (c) Household, municipal, industrial, or agricultural wastes.
 - (d) Any other substance that results in the creation of a harmful by-product.
- into any surface water body (including a stream or river or lake or wetland); or the bed or riparian area of a stream, or river, or lake or wetland; or in the Coastal Margin; where the dumping or fly-tipping leads to a discharge of contaminants to water or to land where the waste or its by-products may enter water,

Is a prohibited activity.

Explanation/Intent of Rule

To discourage and avoid the discharge of untreated sewage, petroleum hydrocarbons, and fly-tipping due to adverse effects on the environment (including cumulative effects) that may be difficult to remedy. Clean-up costs of illegal rubbish dumping usually fall on the community. This activity is not acceptable to the wider community due to the risk of water and soil contamination, and concerns about the effects on human and animal health.

DW R8 (Rule 37) Discretionary - Discharges to Water or Land

Any:

- 1 Discharge of a contaminant to water.
- 2 Discharge of water to water.
- 3 Discharge of a contaminant onto or into land in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water.
- 4 Discharge of a contaminant from any industrial or trade premises onto or into land.

That is not:

- (a) Permitted by a rule in this regional plan.
- (b) Permitted by a rule in any other Bay of Plenty regional plan.
- (c) Prohibited by a rule in this regional plan.
- (d) Restricted discretionary status by a rule in this regional plan.
- (e) Controlled status by a rule in this regional plan.

Is a discretionary activity.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section of this regional plan.

All discharges to surface water that are discretionary under this rule will be assessed against the Water Quality Classification of the receiving water body (refer to Schedule 9 and the Water Classification map).

Resource consent applicants who seek to exceed the relevant Water Quality Classification standards must provide evidence in their application to demonstrate how the adverse effects of the proposed activity will be avoided, remedied or mitigated to be consistent with IM O3.

Advisory Note

- 1 Cleanfill sites that do not discharge leachate or contaminants to land are included in the definition of 'earthworks' and addressed by rules in the Land Management section of this regional plan.
- 2 If a resource consent applicant is unable to avoid, remedy or mitigate adverse effects on the environment, and does not meet IM O3, the resource application is likely to be publicly notified and/or consent may be declined.
- 3 The application of fertiliser is permitted under DW R11 subject to compliance with the conditions of the Rule. If the application does not comply with DW R11, a resource consent is required under DW R8. The Regional Council prefer resource users to comply with DW R11 rather than apply for a resource consent.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse effects of any discharge of contaminants or water to the environment that is not otherwise addressed by other regional rules. The resource consent process is an appropriate means of assessing such effects. DW R8 applies to, but is not limited to, comprehensive catchment discharge consents for stormwater, discharges from contaminated sites, and large scale discharge of contaminants from trade and industrial premises (including waste disposal discharges).

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions as appropriate to the nature of the discharge:

<i>Objective</i>	KT O4, KT O5, KT O6, TH O1, RL O3, OH O1, IM O3, IM O4, IM O5, IM O6, LM O4, DW O1, DW O3, DW O7, DW O4, DW O8, DW O9, DW O10, DW O11, DW O12
<i>Policy</i>	KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, DW P1, DW P5, DW P13, DW P7, DW P9, DW P10, DW P14, DW P15, DW P17, DW P18, DW P19, DW P20
<i>Method</i>	KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12, IM M23, DW M10, DW M11, DW M12, DW M13, DW M14, DW M15, DW M22, DW M23, DW M24, DW M31, DW M39, DW M42, DW M43, Water Quality Classification Map,
<i>Schedule</i>	9

Discharges of Contaminants to Land**Issues**

- DW I4 (Issue 14) **Groundwater quality can be adversely affected by some use and development activities.**

Adverse effects on groundwater quality may include the following:

- (a) Increased levels of bacteria, nutrients, heavy metals or other contaminants.
- (b) Cross-contamination of aquifer systems.

The major causes of this issue in the Bay of Plenty are:

- (a) Inappropriate water and land use activities in the recharge areas of aquifer systems. This is of particular concern where groundwater is used for municipal water supply (such in the Rotorua, Kawerau and Opotiki districts), and where groundwater feeds sensitive receiving environments (such as the Rotorua lakes, Tauranga and Ohiwa harbours).

- (b) Poor groundwater bore and well construction and maintenance, which allows contaminants to enter groundwater, and provides a pathway for low quality groundwater to contaminate high quality groundwater.

Objective IM O1, IM O5, IM O6, IM O7

Policy IM P1, LM P1, IM P4, LM P3, IM P5, IM P8

Method IM M2, IM M3, LM M12, IM M6, LM M17, LM M18, IM M11, LM M20, IM M15, LM M23, IM M19, IM M20, IM M27

Rule DW R9, DW R10, DW R11, DW R12, DW R13, DW R14, DW R15, DW R16, DW R17, DW R18

DW I5 (Issue 20) **The discharge of contaminants to land that is at a rate or volume that exceeds the natural treatment capacity of the soil, can lead to the contamination of soil and water resources, and degradation of soil health and ecosystems.**

Discharges to land utilise natural processes, including nutrient uptake by vegetation, and natural soil treatment processes to assimilate contaminants into the environment. The physical and chemical characteristics of soil and groundwater can be adversely affected where the discharge of contaminants is not managed correctly and overloads natural processes. The long-term contamination of soil may impact the use of that area of land. Surface water in drains, wetlands, rivers and lakes can be degraded due to surface runoff where discharges to land are not appropriately managed.

Contaminants include, but are not limited to, agrichemicals, acids or alkalis, salts, heavy metals, and wastes. Many commonly used substances, such as fertilisers and herbicides, can have adverse effects on the environment if application rates are excessive, or conditions lead to surface runoff.

Adverse effects on the environment from discharges of contaminants to land can include:

- (a) Changes to the physical and chemical characteristics of soil and groundwater.
- (b) Surface runoff to drains, wetlands, rivers, streams and lakes, with subsequent effects on water quality.
- (c) Odour.
- (d) Increased levels of bacteria, heavy metals or other contaminants in soil and groundwater.
- (e) Increased levels of nutrients in groundwater.
- (f) Long-term contamination of soil that may impact future use of that land.

Matters relating to the discharge of contaminants to land that are of particular concern in the Bay of Plenty region are:

- 1 The discharge of leachate caused by poor site design, inappropriate management practices and inadequate treatment systems. Leachate can degrade water quality and contaminate soil due to toxic components, bacteria, discolouration, abnormal pH levels and high Biochemical Oxygen Demand ('BOD'), due to very high levels of nutrients. Leachate may also be odorous. Activities that produce leachate include, but are not limited to, composting operations, silage pits, rubbish dumps and landfills. There are some existing landfills and rubbish dumps in the region that do not have adequate leachate management systems.
- 2 The discharge of persistent toxic contaminants that can accumulate in receiving environments including soil and water. The application of petroleum hydrocarbon products (such as oil) as a dust suppressant to roads and construction sites is a past practice that is not longer environmentally acceptable.
- 3 The incorrect disposal of unwanted agrichemicals may lead to soil and water contamination.

- 4 The cumulative effects of many, small-scale, point source discharges of contaminants to land, resulting in the degradation of water and soil quality. Offal holes, farm dumps, stock effluent, are examples of what can be relatively small-scale discharges of contaminants that can cumulatively cause significant adverse environmental effects, and are usually difficult to address.
- 5 Fertiliser applied in a way or rate that exceeds plant uptake has the potential to leach nutrients to water bodies.
- 6 The discharge of contaminants to land is generally preferred, rather than point source discharges to surface water, as it is usually more culturally and socially acceptable. However, the environmental risk of discharges to land can vary depending on the methodology used, site-specific characteristics of the location (e.g. soil type, depth to groundwater, distance to urban areas), and the treatment capacity of the soil. The adverse effects of discharges to land need to be compared with those of discharges to water, on a case by case basis.

<i>Objective</i>	<i>DW O3, DW O7, DW O5, DW O6</i>
<i>Policy</i>	<i>DW 12, DW P13, DW P7, DW P8, DW P10</i>
<i>Method</i>	<i>LM M18, IM M10, IM M20, DW M3, DW M4, DW M19, DW M20, DW M21, DW M9, DW M10, DW M11, DW M12, DW M13, DW M14, DW M15, DW M17</i>
<i>Rule</i>	<i>DW R9, DW R10, DW R11, DW R12, DW R13, DW R14, DW R15, DW R17, DW R18, DW R7, DW R8</i>
<i>Schedule</i>	<i>6</i>

Objectives

- DW O7 (Objective 26) Discharges of contaminants to land are managed to:
- (a) Not exceed the natural treatment capacity of the soil.
 - (b) Avoid, remedy or mitigate the adverse effects of run off to surface water.
 - (c) Prevent the long-term contamination of the soil by hazardous substances, and safeguard the life-supporting capacity of soil.
 - (d) Ensure that any adverse effects on high quality groundwater are no more than minor:
 - (i) Where there is potable water, including aquifers used for municipal water supply.
 - (ii) Where natural water quality has not been adversely affected by land use or point source discharges.
 - (iii) Where there are recharge areas of (i) and (ii)
 - (iv) In the groundwater catchments of the Rotorua lakes, Ohiwa and Tauranga harbours.
 - (e) Ensure adverse effects on groundwater not otherwise addressed by (d) are avoided, remedied or mitigated.
 - (f) Prevent adverse effects on lake water quality in relation to the TLI of the lake, where the discharge is in the catchment of a lake.

Policies

- DW P12 (Policy 43) To take appropriate action to avoid, remedy or mitigate the cumulative effects of discharges of contaminants to water or to land where such discharges are having an adverse effect on water quality, the life-supporting capacity of soil, or the coastal environment.
- DW P13 (Policy 44) To require the appropriate management of discharges of contaminants to land, and to land where the contaminant may enter water, to ensure that:
- (a) The rate and volume of the discharge does not exceed the natural treatment and assimilative capacity of the soil and its vegetative cover.
 - (b) Surface runoff of contaminants to rivers, streams, lakes, wetlands

- and drains is avoided, remedied or mitigated.
- (c) The creation of contaminated sites is prevented.
- (d) Any adverse effects on high quality groundwater are no more than minor:
 - (i) Where there is potable water, including aquifers used for municipal water supply.
 - (ii) Where natural water quality has not been adversely affected by land use or point source discharges.
 - (iii) Where there are recharge areas of (i) and (ii).
 - (iv) In the groundwater catchments of the Rotorua lakes, Ōhiwa and Tauranga harbours.
- (e) Adverse effects on groundwater not otherwise addressed by (d) are avoided remedied or mitigated.
- (f) There is no net increase of nitrogen or phosphorus in lake catchments.

Methods of Implementation

Education, Promotion and Provision of Information

- DW M19 (Method 101) Encourage management practices which avoid the production of leachate, including:
- (a) Diversion of organic materials from landfills by composting, reuse of organic materials where opportunities are available, and land application of organic materials. This may be carried out in conjunction with city and district councils, or using existing initiatives, such as the Waste Exchange.
 - (b) Limiting the volume of liquid or sludge wastes disposed to landfills.
 - (c) Diversion of stormwater from waste disposal sites.
 - (d) Covering of site to control or minimise rainfall infiltration.

Working with Other Resource Management Agencies and the Community

- DW M20 (Method 104) In conjunction with city and district councils, and on completion of a cost-benefit analysis, implement a system for the collection and appropriate reuse, recycling, treatment and disposal of unwanted hazardous substances, including agrichemicals.
- DW M21 (Method 106) Take appropriate action within the framework of this regional plan (including future plan changes) to avoid, remedy or mitigate the adverse effects of small, point source discharges of contaminants where proven to be having adverse effects on the environment. This may include, but is not limited to, working directly with people undertaking such discharges to resolve issues, or specific regulatory control.

Rules

DW R9 (Rule 17) Permitted – Discharge of Contaminants to Land for the Purpose of Emergency Service Fire Training

The discharge of contaminants to land, or to land in circumstances where the contaminant may enter water, where the contaminant is foam used by the New Zealand Fire Service Commission to undertake fire training activities, is a permitted activity subject to the following circumstances:

- (a) There shall be no discharge of foam to a stream, river, lake or wetland.
- (b) The person discharging the foam must be either an employee or volunteer of the New Zealand Fire Service Commission who is on duty.

- (c) The New Zealand Fire Service Commission shall maintain a regional register with details of location and dates of the discharge of foam to land for fire training activities.

Advisory Note

- 1 Where the discharge of foam is made to a reticulated stormwater system, permission for the discharge must be obtained from the relevant city or district council.

Explanation/Intent of Rule

To allow the New Zealand Fire Service Commission to undertake statutory obligations by providing for the discharge of foam to land used in emergency service training. This activity should have less than minor adverse effects on the environment if carried out in compliance with the conditions. The discharge of foam resulting from extinguishing a fire (fire investigation activities) is addressed by sections 18, 330 and 341 of the Act, and is not restricted by this regional plan.

DW R10 (Rule 19) Permitted – Application of Compost, Wood Fibre, Animal Manure, Grade Aa Biosolids or Vermiculture Material to Land

The discharge of compost, wood fibre, animal manure, Grade Aa biosolids or vermiculture material to land where the contaminant or its by-products may enter water, is a permitted activity subject to the following conditions:

- (a) Except in relation to (b), the material shall be applied so that it acts as a soil conditioner, mulch, or has a beneficial effect on plant growth, and does not adversely affect soil health.
- (b) Where the material is from a composting toilet, the material shall be incorporated into the soil.
- (c) The compost, wood fibre, animal manure, Grade Aa biosolids or vermiculture material shall not contain any of the following substances:
 - (i) Hazardous substances and their containers.
 - (ii) Petroleum hydrocarbons (including oils and fuels) and their containers.
- (d) There shall be no direct discharge of compost, wood fibre, animal manure, Grade Aa biosolids or vermiculture product to streams, rivers, lakes or wetlands.
- (e) All practicable measures shall be taken to avoid the runoff of compost, wood fibre, animal manure, Grade Aa biosolids or vermiculture material to streams, rivers, lakes or wetlands.
- (f) The material shall be applied at an appropriate rate and volume that avoids or mitigates leaching of nutrients to groundwater.
- (g) The levels of heavy metals in the material shall be within those stated in the Guidelines for the Safe Application of Biosolids to Land in New Zealand, 2003¹⁸.
- (h) Where the material is Grade Aa biosolids, the discharge shall also comply with (i) and (ii):
 - (i) The accumulation of heavy metals within the soil of the discharge area shall not exceed the soil limits as specified in Table 4.2 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand, 2003.
 - (ii) Monitoring results for the verification of Grade Aa status and the results of routine sampling that complies with section 7.5 of the Guidelines for the Safe Application of Biosolids to Land in New Zealand, 2003, shall be available to the Regional Council upon request.

¹⁸ Guidelines for the Safe Application of Biosolids to Land in New Zealand, 2003. New Zealand Water and Wastes Association, Ministry for the Environment, Ministry of Health, Ministry of Agriculture and Forestry

This activity is also subject to the requirements of the rules in the Rotorua Lakes section.

Explanation/Intent of Rule

To allow the application of the end material of compost or vermiculture processes. Such materials include, but are not limited to, compost from composting toilets, and deep litter bedding material from intensive pig farming and poultry litter. The rule also applies to Grade Aa biosolids. The rule does not apply to industrial effluent, biosolids (including sewage sludge) that do not comply with Grade Aa rating, or wastes from trade or industrial premises. The conditions are to protect water and land resources, prevent the accumulation of contaminants on land, and ensure the discharge of high risk contaminants is controlled.

DW R11 (Rule 20) Permitted – Application of Fertiliser to Land

The discharge of fertiliser to land where the contaminant or its by-products may enter water, where the fertiliser is applied using ground-based operations, is a permitted activity subject to the following conditions:

- (a) There shall be no direct discharge of fertiliser to groundwater, streams, rivers, lakes or wetlands.
- (b) All practicable measures shall be taken to avoid the runoff of fertiliser to streams, rivers, lakes or wetlands.
- (c) The fertiliser shall be applied at an appropriate time, rate and volume that avoids leaching of nutrients to groundwater.
- (d) Fertiliser must be stored and used in a manner that complies with (a) to (c) above.
- (e) Where the discharge of fertiliser is within 10 metres of a lake, river, stream or wetland, all reasonable steps shall be taken to apply the fertiliser accurately, and confine the fertiliser to the application site.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section.

Advisory Note

- 1 The application of fertiliser by aircraft is addressed by the Operative Bay of Plenty Regional Air Plan¹⁹.
- 2 The Code of Practice for Fertiliser Use (2002) published by the New Zealand Fertiliser Manufacturers' Research Association Inc, and the Code of Practice for the Placement of Fertiliser in NZ: The Spreadmark Code of Practice (2002) are means of complying with the requirements of DW R11²⁰.
- 3 Particular care must be taken when applying fertiliser in the catchments of the Rotorua Lakes, especially those subject to the rules in the Rotorua Lakes section of this regional plan.

Explanation/Intent of Rule

To allow a common activity that should have less than minor adverse effects subject to compliance with the stated conditions. It would also be inefficient to require resource consents for such activities. The conditions aim to avoid discharges of fertiliser to surface water and minimise the leaching of nutrients to groundwater.

DW R12 (Rule 21) Permitted – Application of Agrichemicals to Land

The discharge of agrichemicals to land where the contaminant or its by-products may enter water, is a permitted activity subject to the following conditions:

¹⁹ The Regional Council, 2003. Operative Bay of Plenty Regional Air Plan.

²⁰ New Zealand Fertiliser Manufacturer's Research Association Inc, 1998. Code of Practice for Fertiliser Use.

- (a) There shall be no direct discharge of agrichemical to streams, rivers, lakes or wetlands.
- (b) The discharge of agrichemical shall comply with the requirements of the Operative Bay of Plenty Regional Air Plan²¹.
- (c) The discharge shall not result in any harmful concentration of agrichemical beyond the target area.
- (d) The agrichemical shall be applied in a manner that is consistent with the manufacturer's instructions.
- (e) Where an agrichemical is discharged near, or adjacent to a surface water body:
 - (i) Only agrichemicals that have been approved for use or near-water shall be used. Agrichemicals are approved under Section 21 of the Pesticides Act 1979, or when repealed, by the Hazardous Substances and New Organisms Act 1996 when enabled and operational.
 - (ii) The discharge shall not result in any fish kills.
 - (iii) The discharge shall not contaminate any authorised water take.
 - (iv) There shall be no discharge of agrichemical in the tidal reach of any surface water body between 1 March and 31 May.
- (f) The discharge of agrichemicals within the Riparian Management Zone specified in Table DW 2 shall only be from a method that accurately applies the agrichemical to the target species or area of land. This applies to hand held and mechanical application methods.

Table DW 2 Agrichemical Application in Riparian Areas

	General Area	Location	Land Slope	Distance from surface water body as measured from the edge of the surface water body
(a)	Riparian Management Zone – Rotorua Lakes	Rotorua Lakes (refer to Definition of Terms)	0 to 7°	Between 0-5 metres from the edge of the lake
			>7 to 25°	Between 0-10 metres from the edge of the lake
			>25 to 35°	Between 0-40 metres from the edge of the lake
			>35°	Between 0-40 metres from the edge of the lake
(b)	Riparian Management Zone – excluding (a)	All streams, rivers, wetlands, and lakes not specified in (a)	0 to 7°	Between 0-2 metres from the edge of the water body
			>7 to 15°	Between 0-5 metres from the edge of the water body
			>15 to 25°	Between 0-10 metres from the edge of the water body
			>25 to 35°	Between 0-25 metres from the edge of the water body
			>35°	Between 0-40 metres from the edge of the water body

Note: The Riparian Management Zone in Table DW 2 does not apply to artificial watercourses (including farm drains and roadside drains).

Advisory Note

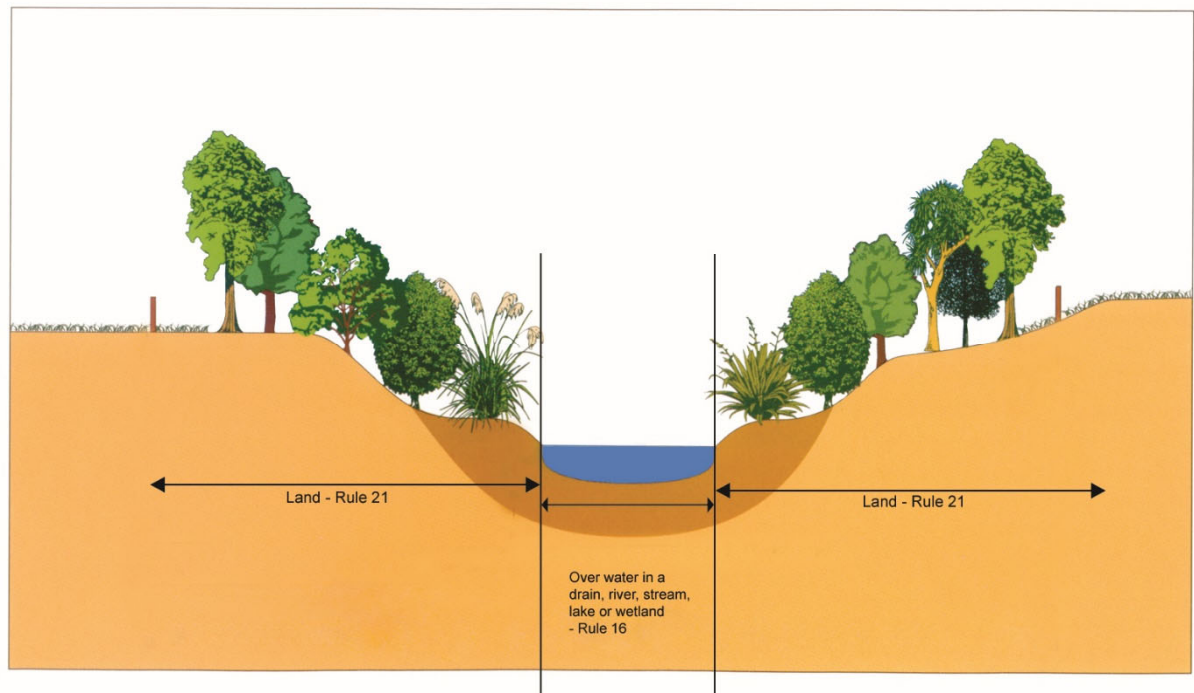
- 1 In relation to the approval of agrichemicals near water, the Environmental Risk Management Authority currently maintains a list of approved agrichemicals.
- 2 The application of agrichemicals by aircraft is addressed by the Operative Bay of Plenty Regional Air Plan.

²¹ The Regional Council, 2003. Operative Bay of Plenty Regional Air Plan.

Explanation/Intent of Rule

This rule permits a relatively common activity that should have less than minor adverse effects subject to compliance with the stated conditions. It would also be inefficient to require resource consents for such activities. The conditions aim to avoid discharges to surface water, require safe handling and use procedures to be used, and avoid effects beyond the target area. Refer to Figure DW 2 to explain where DW R12 applies.

Figure DW 2 Coverage of DW R12



Adapted from Taranaki Regional Council, 2001.

DW R13 (Rule 25) Permitted – Farm Dumps

The discharge of contaminants, including leachate, to land in circumstances where the contaminant or its by-products may enter water, as part of the operation of an on-farm rubbish dump, is a permitted activity subject to the following conditions:

- (a) Discharge to an on-farm rubbish dump is limited to material produced by normal farm operations or household waste from dwellings on the farm and sourced exclusively from the farm property on which the dump is sited, but excludes the discharge of substances and materials specified in (b).
- (b) The following substances and materials shall not be discharged to an on-farm rubbish dump:
 - (i) hazardous substances,
 - (ii) petroleum hydrocarbons (including oils and fuels) and their containers,
 - (iii) human sewage,
 - (iv) stock effluent,
 - (v) offal, dead stock or animals.
- (c) Where the containers of hazardous substances are disposed of in a farm dump, the disposal shall comply with Appendix Z of NZS8409:1999 Code of Practice for the Management of Agrichemicals²².
- (d) No part of the dump site shall be located within:
 - (i) 50 horizontal metres of any groundwater bore, stream, river, lake or wetland.
 - (ii) 50 horizontal metres of a geothermal surface feature.

²² NZS8409:1999. Code of Practice for the Management of Agrichemicals. Standards New Zealand, Wellington.

- (iii) 50 horizontal metres of the Coastal Marine Area.
- (iv) An area that is flooded during storm events. This includes land that is:
 - (a) an ephemeral flowpath, or
 - (b) the berm of a river scheme identified in Schedule 5, or
 - (c) a floodway identified in Schedule 6.
- (v) An area where the highest groundwater level is less than one (1) metre below the base of the dump site.
- (e) There shall be no surface ponding of leachate at the dump site, or overland flow of leachate from the dump site.
- (f) Stormwater shall be diverted from entering the dump site.
- (g) When no longer in use the waste in the dump site shall be covered with a minimum of 300 mm of soil material substrate.

Advisory Note

- 1 As a courtesy to neighbours, operators of farm dumps should consider the proximity of the dump site to property boundaries and dwellings; control of nuisance effects such as windblown litter, flies and rats; and the visibility of the dump site.
- 2 With regards to land use restrictions, the site must comply with the provisions of a district plan.

Explanation/Intent of Rule

To allow for on-farm waste disposal sites, particularly in areas where there are no other waste disposal opportunities. This rule does not apply to dump sites where waste is accepted from other properties. The conditions are preventative measures to minimise the potential adverse environmental effects (including cumulative effects) of farm dumps in the region.

DW R14 (Rule 26) Permitted – Offal Holes

The discharge of contaminants, including leachate, to land in circumstances where it may enter water, as a result of the operation of an offal hole, is a permitted activity subject to the following conditions:

- (a) Discharge into an offal hole is limited to animal and vegetable material resulting from normal farm operations sourced exclusively from the farm property on which the offal hole is sited, but excludes the discharge of substances and materials specified in (b).
- (b) The following substances and materials shall not be discharged to an offal hole:
 - (i) hazardous substances and their containers,
 - (ii) petroleum hydrocarbons (including oils and fuels) and their containers,
 - (iii) human sewage,
 - (iv) stock effluent.
- (c) The offal hole shall not be located within:
 - (i) 50 horizontal metres of any groundwater bore, stream, river, lake or wetland.
 - (ii) 50 horizontal metres of a geothermal surface feature.
 - (iii) 50 horizontal metres of the Coastal Marine Area.
 - (iv) An area that is flooded during storm events. This includes land that is:
 - (a) an ephemeral flowpath, or
 - (b) the berm of a river scheme identified in Schedule 5, or
 - (c) a floodway identified in Schedule 6.
 - (v) An area where the highest groundwater level is less than two (2) metres below the base of the offal hole.
- (d) There shall be no surface ponding of leachate or wastes at the offal hole site or overland flow of leachate or wastes from the offal hole site.
- (e) The offal hole shall be securely covered to prevent stormwater from entering the hole.
- (f) When no longer in use the waste in the dump site shall be covered with a minimum of 300 mm of soil material substrate.

Advisory Note

- 1 As a courtesy to neighbours, operators of offal holes should consider the proximity of the dump site to property boundaries and dwellings; control of nuisance effects such as flies and rats; and the visibility of the offal hole.
- 2 With regards to land use restrictions, the site must comply with the provisions of the District Plan.
- 3 Care should be taken when developing offal holes to ensure hole sizes are not too large, or there are not too many holes in one location, to ensure the breakdown of materials and to minimise scavenging.
- 4 The disposal of animal carcasses that contain infectious diseases are subject to other provisions, and require notification to the Ministry of Primary Industries. Incineration is the preferred method of disposal in those circumstances.

Explanation/Intent of Rule

To allow for on-farm disposal of biodegradable wastes generated on the property. This rule does not apply to sites where waste is accepted from other properties. The conditions are preventative measures to minimise the potential adverse environmental effects (including cumulative effects) of offal holes in the region, while recognising that these activities are part of normal farming practices.

DW R15 (Rule 27) Permitted – Ensilage (Silage) Pits and Stacks

The discharge of leachate from ensilage (silage) pits and stacks to land in circumstances where the leachate or its by-products may enter water is a permitted activity, subject to the following conditions:

- (a) There shall be no discharge of leachate to a surface water body.
- (b) There shall be no surface ponding of leachate at the silage pit site or overland flow of leachate from the silage pit or stack site.
- (c) All practicable steps shall be taken to divert stormwater away from the silage pit or stack.
- (d) The silage pit or stack shall not be located within:
 - (i) 50 horizontal metres of any groundwater bore, stream, river, lake, wetland, or Land Drainage Canal.
 - (ii) 50 horizontal metres of a geothermal surface feature.
 - (iii) 50 horizontal metres of the Coastal Marine Area.
 - (iv) A gully or depression, or an area that is flooded during storm events.
 - (v) An area where the highest groundwater level is less than one (1) metre below the base of the silage pit or stack.

Advisory Note

- 1 This rule does not apply to wrapped silage bales, which are not addressed by this regional plan.
- 2 Where an ensilage (silage) pit or stack is sealed with an impermeable base and leachate is collected and discharged to an effluent treatment pond, the pit or stack is not subject to DW R15. Any other pits and stacks are subject to DW R15, including any sealed pit or stack that does not have a leachate collection system.
- 3 In relation to DW R15, it is recommended that ensilage (silage) pits and stacks are covered to prevent rainwater entering the silage, and that silage is made in a manner that minimises the amount of excess moisture in the pit or stack.
- 4 In areas with high groundwater tables where the silage pit can not comply with DW R15(d)(v), silage pits should be constructed on a sealed base, and leachate collected and discharged to an effluent treatment system.

Explanation/Intent of Rule

To allow an activity that is part of normal farming practices subject to conditions that protect water quality. It is important to note that silage leachate is on average 200 times stronger than raw sewage and can have significant adverse effects on water quality if ensilage pits or stacks are not located or managed appropriately. Any ensilage pit or stack that does not meet all the conditions of DW R15 is a discretionary activity.

DW R16 (Rule 28) Permitted – Composting Operations

The discharge of leachate from composting operations to land in circumstances where leachate may enter water is a permitted activity, subject to the following conditions:

- (a) No hazardous substances, human sewage, petroleum hydrocarbons (including oil), fats (including grease trap wastes and animal fats), offal or animal carcasses shall be composted.
- (b) There shall be no discharge of leachate to a surface water body.
- (c) There shall be no surface ponding of leachate at the composting site or overland flow of leachate from the composting site.
- (d) All practicable steps shall be taken to divert stormwater away from the pile.
- (e) The composting site shall not be located within:
 - (i) 50 horizontal metres of any groundwater bore, stream, river, lake or wetland.
 - (ii) 50 horizontal metres of a geothermal surface feature.
 - (iii) 50 horizontal metres of the Coastal Marine Area.
 - (iv) An area that is flooded during storm events. This includes land that is:
 - (a) An ephemeral flowpath, or
 - (b) The berm of a river scheme identified in Schedule 5, or
 - (c) A floodway identified in Schedule 6.
 - (vi) An area where the highest groundwater level is less than two (2) metres below the base of the composting site.

Advisory Note

- 1 Where a composting operation is an enclosed system, or the composting is carried out on a concrete pad where the leachate is recirculated into the pile, a resource consent is not required under this regional plan.
- 2 Composting operations must also comply with the requirements of the Operative Bay of Plenty Regional Air Plan.
- 3 Compliance with the provisions of this regional plan does not remove the need to also comply with district plan provisions on composting sites.

Explanation/Intent of Rule

To allow composting of greenwaste, plant and vegetable wastes, and other biodegradable materials not excluded by condition (a). Urban household compost bins are not considered to be of concern and are not controlled by this regional plan. Composting recycles biodegradable wastes into a soil conditioner product, and can significantly reduce the volume of waste disposed to landfills in the region.

DW R17 (Rule 28A)**Controlled – Composting of Offal and Animal Carcasses**

The discharge of leachate from the composting of offal and animal carcasses to land, or to land in circumstances where the leachate may enter water, where the activity meets the following conditions is a controlled activity:

- (a) Only offal or animal carcasses sourced exclusively from the farm property on which the activity is sited shall be composted.
- (b) No hazardous substances, human sewage, petroleum hydrocarbons (including oil), or grease trap wastes shall be composted.
- (c) Leachate shall be collected and managed to comply with conditions (d), and
- (d) There shall be no discharge of leachate to a surface water body.
- (e) There shall be no surface ponding of leachate at the composting site or overland flow of leachate from the composting site.
- (f) All practicable steps shall be taken to divert stormwater away from the composting site.
- (g) Offal or animal carcasses containing notifiable animal diseases, as defined in the Biosecurity Act 1993, shall not be composted. Such material should be disposed of in accordance with Ministry of Primary Industries procedures.

The Regional Council reserves its control over the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the discharge of leachate to the environment.
- (b) Location of the composting site in relation to surface water bodies (including coastal waters), groundwater bores, areas that convey water during storm events, and depth to groundwater.
- (c) The composting method, and management of the composting operation to avoid, remedy or mitigate adverse effects on the environment.
- (d) Compliance with relevant industry codes of practice that addresses the composting of offal or animal carcasses.
- (e) The administrative charges under section 36 of the Act.
- (f) Monitoring requirements.

Notification

Applications for the discharge of leachate to land, or land in circumstances where the leachate may enter water, under this Rule do not require the written approval of affected persons, and shall not be publicly notified, except where The Regional Council considers special circumstances exist in accordance with Section 94C of the Act.

Advisory Note

- 1 Where a composting operation is an enclosed system, or the composting is carried out on a concrete pad where the leachate is recirculated into the pile, a resource consent is not required under this regional plan.
- 2 The activity must also comply with the requirements of the Operative Bay of Plenty Regional Air Plan.

Explanation/Intent of Rule

To provide for discharges of leachate from composting operations where the adverse effects are more appropriately assessed and controlled through resource consent conditions. It is recognised that composting is preferable to offal pits or burial. Matters of which the Regional Council retains control are those relevant to effects on water quality, and administrative issues. The composting of offal or animal carcasses that does not meet the conditions of DW R17 is a discretionary activity under DW R8.

DW R18 (Rule 29) Permitted – Discharge of Bark and Wood Waste to Land (Large Disposal Sites)

The:

- 1 Discharge of bark and wood waste, to land, and
- 2 Discharge of leachate to land or to land in circumstances where the leachate or its by-products may enter water from bark and wood waste disposal sites,

Is a permitted activity, subject to the following conditions:

- (a) Only wood fibre, wood chips, sawdust, small wood off-cuts, and bark shall be disposed of at the site.
- (b) No chemically treated wood or wood waste shall be disposed of at the site.
- (c) The material shall be placed in layers, where each layer does not exceed three (3) metres in depth.
- (d) Each layer of material shall be covered with a minimum of 250mm of soil material substrate.
- (e) The disposal site shall not be located within:
 - (i) One (1) kilometre horizontal distance from any groundwater bore or stream, river, lake or wetland.
 - (ii) 300 metres horizontal distance from any geothermal surface feature.
 - (iii) 300 metres horizontal distance from the Coastal Marine Area.
 - (iv) An area that is flooded during storm events, including ephemeral flowpaths.
 - (v) An area where the highest groundwater level is less than 20 metres below the base of the disposal site.
- (f) All practicable steps shall be taken to divert stormwater away from the disposal site.
- (g) There shall be no direct discharge of leachate to surface water.
- (h) The discharge of leachate shall not cause or contribute to the discolouration of water in streams, rivers, lakes or wetlands downstream of the disposal site.
- (i) There shall be no overland flow of leachate or contaminated stormwater from the disposal site.

Explanation/Intent of Rule

To allow bark and wood waste disposal sites for the disposal of wood wastes from wood and forestry processing operations. The rule provides for the spreading of wood or bark wastes, which is unlikely to have more than minor adverse environmental effects. DW R18 does not apply to harvesting material around landings and skid sites, but does apply to waste brought to a site from a processing operation.

DW R19 (Rule 32) Controlled – Discharges of Dairy Shed or Piggery Effluent to Land

The discharge of dairy shed or piggery effluent to land where the contaminant may enter water where:

- 1 The discharge is spray irrigation; or
- 2 The discharge is soil injection; or
- 3 The discharge is to land soakage and is not within the catchment of the Rotorua Lakes;

Is a controlled activity.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section.

The Regional Council reserves its control over the following matters:

- (a) Nitrogen application rate.
- (b) Discharge rate and volume.
- (c) Location of discharge in relation to the proximity to a surface water body or groundwater bores.
- (d) Discharge site in relation to soil type, slope, and area.
- (e) Measures to avoid, remedy or mitigate adverse effects on surface water and groundwater.
- (f) The duration of the consent.
- (g) Monitoring requirements.
- (h) The administration charges under section 36 of the Act.

Notification

Applications for the discharge of dairy shed or piggery effluent to land under this Rule do not require the written approval of affected persons, and shall not be publicly notified, except where the Regional Council considers special circumstances exist in accordance with section 94C of the Act.

Explanation/Intent of Rule

To encourage the discharge of dairy shed or piggery effluent to land by spray irrigation, and to land soakage in appropriate areas. Land soakage may not be appropriate in the lake catchments specified, as there may not be sufficient treatment of the effluent before it reaches groundwater in these sensitive receiving environments. Matters of which the Regional Council retains control are those relevant to effects on water quality, and administrative issues.

Discharge of Stormwater

Refer to the definition of 'stormwater' in the Definition of Terms for clarification of the coverage of this section of the regional plan.

Issues

DW I6 (Issue 22) **The lack of integrated and comprehensive management of stormwater may increase adverse effects on the environment.**

The lack of an integrated and comprehensive stormwater catchment management approach to stormwater in our region can result in a variety of problems including:

- (a) Contamination of stormwater. City and district councils may lack full documentation of stormwater systems. The illegal discharge of industrial contaminants to stormwater systems is a particular problem.
- (b) Flooding. Fragmented management of stormwater catchments may result in inadequate structure placement and pipe sizes. As land use changes occur, the existing stormwater infrastructural requirements may pose conveyance limitations. Dwellings may have been built in natural flowpaths or ephemeral flowpaths.
- (c) Damage or destruction of heritage values - refer to DW I10 for explanation.

Integrated and comprehensive management of stormwater should lead to better environmental outcomes in relation to improved water quality, reduced flooding and the maintenance of heritage values.

Objective DW O8

Policy DW P14, DW P16

Method IM M3, LM M9, DW M33, DW M36, DW M39, DW M40, DW M41, DW M42

Rules DW R20, DW R21, DW R22, DW R23, DW R8

DW 17 (Issue 23) **There is the potential for stormwater to transport contaminants, which adversely affect receiving environments.**

The source of stormwater influences the types of contaminants that may be present in the discharge:

- 1 Residential/commercial/industrial areas. Stormwater from these land use areas generally contain sediment, metals, nutrients, and Total Petroleum Hydrocarbons. Litter and various other contaminants may also be present. In some cases contaminants are being illegally discharged to stormwater systems and are degrading water quality due a lack of community awareness about the difference between stormwater and sewerage management systems, and a perception that stormwater systems can be used for waste disposal. Sewage overflows, geothermal water, swimming pool water, industrial wastes, and wash down water, can contaminate stormwater where discharged to stormwater systems.
- 2 Roading. Stormwater from roading may contain heavy metals and Total Petroleum Hydrocarbons with levels that can relate to traffic volumes and the type of vehicles. Rural roads with low traffic volume present a low environmental risk. Stormwater from high traffic areas, including urban areas and heavily used sections of state highways, have a greater potential to contain significant levels of contaminants.
- 3 Land Disturbance Activities (e.g. earthworks, vegetation disturbance, and quarries). Sediment is the major contaminant present in discharges from land disturbance activities, which can degrade water quality and aquatic habitats, change instream characteristics, and increase sedimentation in receiving environments such as lakes, harbours and estuaries. Sediment from earthworks is a particular concern in the Tauranga Harbour catchment. Earthworks and quarries present different risks to the environment, earthworks are generally short-term activities carried out during the development stage of a project, whereas quarries are of a longer duration.
- 4 Rural areas. Stormwater discharges from rural areas are largely diffuse discharges, but have the potential for increased adverse effects when diverted and channelled into point source discharges. Faecal material from stock, nutrients and sediment are the main contaminants present.

All stormwater is contaminated to a greater or lesser degree by inputs from natural or human sources. There is limited knowledge about stormwater quality in the region, what treatment methods are appropriate, or where treatment is necessary. There is a need for continued stormwater monitoring to gain a better understanding of the geographic differences in stormwater quality to ensure effective and efficient management. There is a lack of information on the effect of changing land use (e.g. from residential to industrial) on stormwater quality, and the sources of stormwater pollution. Current levels of contaminants in stormwater will change over time, for example as land use intensifies and traffic volumes increase. This is expected to be evident with regards to the western Bay of Plenty area. The retention zones of harbours (e.g. Tauranga Harbour, Ohiwa Harbour), estuaries and lakes (e.g. Lake Rotorua) are particularly sensitive to increased contaminant levels.

<i>Objective</i>	<i>DW O1, DW O9, DW O13, DW O14</i>
<i>Policy</i>	<i>DW P1, DW P14, DW P15, DW P16, DW P17, DW P20</i>
<i>Method</i>	<i>LM M1, IM M1, LM M2, IM M3, IM M8, DW M22, DW M23, DW M25, DW M28, DW M29, DW M30, DW M31, DW M32, DW M33, DW M34, DW M35, DW M37, DW M38</i>
<i>Rule</i>	<i>DW R20, DW R21, DW R22, DW R23, DW R8, rules in the Rotorua Lakes section of this regional plan</i>
<i>Schedule</i>	<i>4</i>

DW I8 (Issue 24) **Excessive rates and volumes of stormwater discharged from point sources can lead to erosion and scour.**

Preventing or minimising erosion and scour from point source discharges of stormwater is necessary to avoid or mitigate the effects of these discharges on the environment.

Objective DW O10, DW O13
Policy DW P18, DW P21
Method DW M22, DW M24, DW M42, DW M44
Rule DW R20, DW R22, DW R23, DW R8

DW I9 (Issue 25) **Increased volumes of stormwater are being diverted, concentrated and discharged to streams, rivers, lakes and coastal waters from developed areas as a result of the creation of impermeable surfaces that reduce the natural infiltration of rainwater, and a lack of reuse of stormwater.**

Stormwater management systems may also concentrate flows, and increase the velocity at which stormwater passes through the catchment. This creates a higher potential to cause downstream flooding, erosion and scour. Stormwater is often diverted away from its natural drainage pattern, causing unacceptable effects on other properties. The increase in compaction and lowered infiltration rates of soil resulting from urban development also increase the volume of stormwater runoff.

A contributing factor to increasing volumes of stormwater discharges is the lack of recognition of the resource value of stormwater and opportunities for the reuse of stormwater. Allowing for infiltration areas, and alternative methods of controlling and conveying stormwater should be encouraged.

Objective DW O11, DW O13
Policy DW P19
Method DW M22, DW M24, DW M33, DW M40, DW M42, DW M43, DW M44
Rules DW R20, DW R21, DW R22, DW R23, DW R8

DW I10 (Issue 26) **The heritage values of streams, rivers (including modified watercourses) and lakes can be degraded where such watercourses are used as treatment and disposal systems for contaminated stormwater, or increased volumes of stormwater are discharged to receiving water bodies from urban areas.**

Streams, particularly those flowing through urban areas, have been channelled, piped, used as primary treatment systems, and are the receiving environments for stormwater discharges. Aquatic habitats, cultural and amenity values can be damaged or destroyed by such actions.

Also refer to Damming and Diversion in the Water Quality section, and Activities in the Beds of Streams, Rivers and Lakes in the Beds of Water Bodies section of this regional plan for relevant other provisions.

Objective DW O12, DW O15
Policy DW P14
Method IM M10, DW M33, DW M38, DW M40, DW M42
Rule DW R20, DW R8

DW I11 (Issue 27) **The piping and diversion of small streams as part of urban development adversely affects the habitats of indigenous fish species, the natural character of those streams, and can lead to increased flooding in lower reaches of the catchment.**

The piping of small streams and modified watercourses as part of urban development and stormwater management has occurred in the past, but is no longer considered acceptable practice. Small streams and modified watercourses provide important habitats for some species of indigenous

fish, including kokopu and eel species. Piping reduces the amount of habitat available to aquatic species and may compromise fish passage within a catchment. It is more appropriate to retain such streams in their natural state, and use Low Impact Design approaches to manage urban stormwater. Piping also concentrates stormwater flows, which can lead to increased flooding in downstream areas where the stormwater is discharged. It is recognised that it may be difficult or impracticable to retrofit existing stormwater systems to restore natural streams and linkages to wetlands. However, the development of greenfield sites can be designed and managed to avoid the piping of streams.

Objective DW O15

Policy DW P14, DW P15, DW P16, DW P18, DW P19, DW P21

Method IM M10, DW M26, DW M27, DW M38, DW M40, DW M41, DW M42, DW M43, DW M44

Rule DW R20, DW R8

Objectives

DW O8 (Objective 30)	Integrated and comprehensive management of stormwater within a catchment or sub-catchment framework, where practicable.
DW O9 (Objective 31)	Improvement, where necessary, to the quality of stormwater discharged to the environment.
DW O10 (Objective 32)	Erosion and scour caused or exacerbated by stormwater discharges is avoided, remedied or mitigated.
DW O11 (Objective 33)	The volume of stormwater from urban areas and other sources that utilise stormwater systems that discharge to streams, rivers and lakes is minimised.
DW O12 (Objective 34)	Streams and rivers are not used as treatment systems for contaminated stormwater.
DW O13 (Objective 35)	Stormwater is discharged to land, where appropriate.
DW O14 (Objective 36)	No net increase of nitrogen or phosphorus to lake catchments as a result of stormwater discharges, especially from new urban development.
DW O15 (Objective 37)	Stormwater discharges avoid, remedy or mitigate adverse effects on the ecological, natural character, landscape, recreational, and Maori cultural values of streams, rivers and lakes.

Cross-Reference

Also refer to TH O1, RL O3, OH O1, RL O2, DW O1, BW O2.

Policies

DW P14 (Policy 50)	<p>To encourage city and district councils and roading authorities to plan, design, construct and maintain urban stormwater management systems within an integrated and comprehensive framework that:</p> <ol style="list-style-type: none"> Avoids or mitigates adverse effects on rivers, streams, wetlands and aquatic ecosystems. Considers the total stormwater catchment, or sub-catchment as appropriate, including the interaction between different land uses in the catchment, and the effects of the discharge flow rate and volume on the existing hydrological system. Retains or establishes appropriate vegetation adjacent to natural water bodies, riparian margins and wetlands wherever practicable. Avoids the use of natural waterways as treatment systems for contaminated stormwater. Where necessary, improves the quality of stormwater discharged to the environment. Minimises the quantity of urban stormwater discharged to streams, rivers and lakes. Avoids, and where practicable and achievable remedies, the adverse effects on aquatic habitats from the piping of small streams
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and modified watercourses.

DW P15 (Policy 51)	To require the appropriate management of stormwater quality, including: <ul style="list-style-type: none"> (a) The use of source controls to avoid the contamination of stormwater. (b) The use of best practicable options. (c) Treatment of stormwater to prevent the contamination of receiving environments.
DW P16 (Policy 52)	To raise community awareness about stormwater management issues, including pollution of stormwater, source control of contaminants, appropriate disposal of wastes, on-site retention and reuse, and the adverse effects of stormwater contamination on the environment. This will be carried out in conjunction with city and district councils.
DW P17 (Policy 53)	To require city and district councils to maintain records of stormwater systems and inputs to these systems in areas where there is a high risk of stormwater contamination to assist the identification of the source(s) of stormwater contamination.
DW P18 (Policy 54)	To require stormwater discharge rates and volumes, and stormwater discharge outlet structures, to be designed and managed to avoid or mitigate erosion and scour.
DW P19 (Policy 55)	To encourage the minimisation of the volume of stormwater runoff discharged to the environment from urban areas.
DW P20 (Policy 56)	To encourage the use of appropriate measures to reduce the level of contaminants in rural stormwater, to avoid, remedy or mitigate adverse effects on water quality.
DW P21 (Policy 57)	Where appropriate to the environmental limitations of the site, encourage the discharge of stormwater to land.
<u>Cross-Reference</u>	Also refer to DW P1.

Methods of Implementation

The Regional Council will:

Methods Specific to Residential/Commercial/Industrial Areas

DW M22 (Method 118)	In conjunction with the city council, the city council, district councils and the community, develop practicable options for stormwater management to: <ul style="list-style-type: none"> (a) Minimise the quantity of urban stormwater discharged to streams, rivers and lakes; and (b) Achieve appropriate quality standards for stormwater discharges, and where necessary improve the quality of stormwater discharges. The best practicable options will assist the community to comply with the requirements of this regional plan.
DW M23 (Method 119)	Encourage the city council, district councils and the community to use management measures to minimise the contamination of urban stormwater, including: <ul style="list-style-type: none"> (a) At-source management of contaminants. (b) Use of best practicable options to reduce levels of contaminants entering surface water bodies. (c) Treatment of stormwater prior to discharge to receiving environments where appropriate. (d) Prevention of inappropriate discharges of contaminants to stormwater systems, such as appropriate site management, and appropriate disposal of wastes.

DW M24 (Method 120)	<p>Encourage measures to reduce the volume of stormwater discharged to the environment from urban areas, including:</p> <ul style="list-style-type: none"> (a) The appropriate design of subdivisions and other land use developments to minimise stormwater runoff, such as minimising the increase in the area of impermeable surfaces and retaining natural flood retention areas. (b) On-site management and disposal of stormwater to soakage, where practicable and appropriate. (c) Storage and reuse of stormwater, including for irrigation or creation of aquatic habitats, where practicable and appropriate. (d) Retention or creation of non-structural stormwater controls, where appropriate.
DW M25 (Method 121)	Advocate the city council and district councils to manage the discharge of stormwater from industrial or commercial sites, particularly from high risk facilities in Schedule 4, where such discharges are made to a council stormwater system. Contaminants from industrial or commercial tradewaste, or from the storage of hazardous materials and waste products, should not be allowed to discharge to a stormwater system, or to land where the contaminants may enter the stormwater system. Contaminated stormwater from industrial or commercial sites is to be appropriately treated to reduce contaminants to acceptable levels prior to discharge to stormwater systems.
DW M26 (Method 122)	Require stormwater management systems in greenfield sites to avoid the piping of small streams.
DW M27 (Method 123)	Encourage district and city councils to investigate measures to return piped streams in urban areas to their natural state, where practicable and achievable within existing urban areas.
<u>Cross-Reference</u>	Also refer to LM M1, LM M2, IM M3, LM M6, LM M9

Methods Specific to Land Disturbance Activities

DW M28 (Method 124)	Encourage land disturbance activities to be managed according to the the Regional Council Erosion and Sediment Control Guidelines ²³ (Earthworks, Quarries, or Forestry whichever is appropriate) to control erosion and discharges of sediment to water, and to contain suspended solids in stormwater on-site where appropriate.
DW M29 (Method 125)	Work with the city council and district councils to address the effects of discharges of sediment from small earthworks sites (such as house sites), including the development of guidelines for small earthwork site management.

Methods Specific to Rooding

DW M30 (Method 126)	Encourage roading authorities to consider planning roading networks and urban areas to minimise the contamination of receiving environments caused by stormwater discharges.
DW M31 (Method 127)	Encourage roading authorities to provide for appropriate stormwater treatment systems at the development stage of new roading, including state highways, relative to expected traffic levels and potential levels of contaminants.
DW M32 (Method 128)	Advocate that central government regulate the types and levels of additives, including heavy metals, in vehicle components to reduce contaminants in stormwater from roading.

²³ Environment Bay of Plenty, 2001. Erosion and Sediment Control Guidelines for Land Disturbing Activities. Guideline No. 2001/03.

Environment Bay of Plenty, 2000. Erosion and Sediment Control Guidelines for Forestry Operations. Guideline No. 2000/01.

Methods Specific to Rural Areas

- DW M33 (Method 129) Where the cumulative effects of activities in a rural catchment are degrading water quality in streams, rivers and lakes, the Regional Council will:
- (a) Encourage landowners to use measures to reduce the level of contaminants in rural stormwater (refer to LM M1, IM M1, LM M2 and IM M8).
 - (b) Use appropriate measures within the framework of this regional plan (including future plan changes) to reduce the level of contaminants in rural stormwater (e.g. refer to DW R3, DW R20, DW R8).
- Cross-Reference Also refer to Methods LM M1, IM M1, LM M2 and IM M8.

Methods Applicable to All Stormwater

- DW M34 (Method 130) Continue investigations to review levels of stormwater contaminants and appropriate discharge standards in relation to land use intensification and changes such as increased traffic densities. Such investigations will include soluble and sediment-bound contaminants and the sources of stormwater contaminants where necessary. This will be carried out by the Regional Council, in conjunction with the city council, district councils and roading authorities, where appropriate.
- DW M35 (Method 131) Continue to monitor the effects of stormwater discharges from high risk activities, and the impacts on sensitive receiving environments. This will assist the community to determine appropriate stormwater controls. This will be carried out by the Regional Council as part of compliance and impact monitoring.
- DW M36 (Method 132) Continue to operate a Stormwater Liaison Group with the city council, district councils and roading authorities in the region to facilitate co-ordination and co-operation for stormwater management issues. Other relevant parties will be involved in the Stormwater Liaison Group as appropriate, and where agreed by all members of the Group.
- DW M37 (Method 133) Work with the city council and district councils to formulate strategies to address existing stormwater discharges that are not performing to the required environmental standards. Off-site mitigation measures, remediation works in other areas, or other appropriate works may be considered where it is not cost-effective or practicable to upgrade existing stormwater systems to meet required environmental standards. This will be assessed on a case by case basis with regard to the sensitivity of the receiving environment.
- DW M38 (Method 134) In conjunction with the city council, district councils and roading authorities, identify receiving environments that have been adversely affected by stormwater discharges, or are sensitive receiving environments at risk of contamination from stormwater discharges resulting from future urban or roading developments.
- DW M39 (Method 135) Require the city council and district councils to apply for comprehensive stormwater catchment or sub-catchment consents (Comprehensive Stormwater Consents) for areas that have been identified as priority catchments by the Regional Council in conjunction with city and district councils (e.g. in the Stormwater Strategy for the Bay of Plenty Region).
- DW M40 (Method 136) Advocate the city council and district councils to develop long-term stormwater planning strategies that:
- (a) Address the adverse environmental effects of stormwater on water quality, natural hydrological systems, and aquatic habitats.
 - (b) Integrate urban planning and the provision of stormwater infrastructure for present and future urban growth.
 - (c) Include catchment based approaches to stormwater management.
 - (d) Take into account the need to protect identified sensitive ecological

- areas.
- (e) Address the different management issues for residential, commercial, industrial and roading stormwater.
- (f) Address appropriate stormwater management and treatment.
- (g) Identify and map existing stormwater systems and areas where there is a high risk of stormwater contamination, and maintain accurate records of inputs of potentially contaminated stormwater into these systems.
- (h) Monitoring of discharges to stormwater systems.

DW M41 (Method 137) In conjunction with the city council and district councils, establish systems and processes to:

- (a) Co-ordinate the consenting of discharges of water or contaminants to water in any open watercourse that forms part of a city council or district council stormwater system.
- (b) Manage the discharge of sediment contaminated stormwater from earthworks to district council stormwater systems.
- (c) Manage stormwater discharges from high risk industrial sites, where the activity may need a resource consent from the Regional Council for the discharge of contaminants.

This may include, but is not limited to, transfer of powers under section 33 of the Act.

DW M42 (Method 138) Encourage stormwater systems to be designed, constructed and maintained to appropriate design standards that are consistent with the requirements of this regional plan, and the principles of Low Impact Design (as described in DW M23 and DW M24).

DW M43 (Method 139) Encourage use of innovative methods to manage and treat stormwater to appropriate standards before it is discharged to streams, rivers, lakes and coastal waters. This includes, but is not limited to, swales, infiltration systems, wetlands, and other stormwater management and treatment methods that are appropriate to the site and individual circumstances.

DW M44 (Method 140) Encourage stormwater to be retained on-site and discharged to land soakage where this is practicable and environmentally sustainable.

Regulatory Methods

Cross-Reference Also refer to LM M18, DW R8, DW R20.

Rules

DW R20 (Rule 30) Permitted – Discharge of Stormwater to Surface Water

The discharge of stormwater to surface water, or to land where the discharge enters surface water, is a permitted activity, subject to the following conditions:

- (a) The suspended solids concentration of the discharge shall not be greater than 150g/m³, except where a 10 minute duration 10% AEP storm event (10 year return period storm) is exceeded.
- (b) The discharge shall not be to a surface water body in an area otherwise covered by a Comprehensive Catchment Discharge Consent.
- (c) The discharge shall not cause the production of conspicuous oil or grease films, scums or foams, or floatable materials.
- (d) The rate of discharge shall not exceed 125 litres per second for a 10 minute duration 10% AEP storm event (10 year return period storm).

- (e) The discharge shall not contain any stormwater from a timber preservation site, timber treatment site, or a site where chemically treated timber is stored.
- (f) The discharge shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (g) The discharge shall not cause nor contribute to flooding or ponding on any land or property owned or occupied by another person.
- (h) The discharge shall not contain hazardous substances, or substances that are toxic to aquatic ecosystems (as measured relative to the ANZECC Guidelines for Fresh and Marine Water Quality, 2000).²⁴
- (i) The discharge shall not contain any wastes (including, but not limited to, wastewater or condensates) from a trade or industrial process.
- (j) The discharge shall not cause a conspicuous change in the colour of the receiving waters.
- (k) Where the discharge is to a part of a receiving water body that is classified as Water Supply, the discharge shall not contain any substance that renders the water unsuitable for treatment (equivalent to coagulation, filtration, disinfection or micro-infiltration) for human consumption.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section of this regional plan.

Advisory Note

- 1 If a resource user wishes to discharge stormwater to water at a greater rate or suspended solid concentration than permitted under DW R20, they must apply for a resource consent and the effects of the discharge will be assessed on a case by case basis. The Regional Council will assess the effects of a proposed higher suspended solids limit providing the results of appropriate investigations are in the Assessment of Environmental Effects for a resource consent application.
- 2 In relation to the application of condition (d), stormwater management systems for State Highways and other roads may be designed to allow multiple discharges along a length of roadway, providing each individual discharge does not exceed the stated rate.
- 3 In relation to condition (c), the term 'conspicuous' refers to a visually evident effect.

Explanation/Intent of Rule

To allow point source discharges of clean stormwater to surface water, and to land where the discharge flows over land to surface water. The rule applies to discharges of stormwater from roofs, roads outside urban areas, and point source discharges of rural stormwater. Such discharges present a low risk to the environment, and would generally not be covered by a Comprehensive Catchment Discharge Consent. Discharges of sediment contaminated stormwater from land disturbance activities are addressed by rules in the Land Management section of this regional plan. Any discharge of stormwater that does not comply with all conditions of DW R9 requires a resource consent. Where the discharge of stormwater to surface water does not comply with DW R20, and is not a restricted discretionary activity under DW R21, it is a discretionary activity under DW R8. Water passing through a culvert that crosses a stream (i.e. the culvert is a stream crossing structure) is not considered to be a discharge, and is not subject to rules in the Discharges to Water and Land section of this regional plan, including DW R20. If a resource user wishes to discharge stormwater to water at a greater rate or suspended solid concentration than permitted under DW R20, they must

²⁴ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality, New Zealand.

apply for a resource consent and the effects of the discharge will be assessed on a case by case basis. Refer to Flow Diagram DW 1 to assist reading of this rule.

DW R21 (Rule 30A)**Restricted Discretionary – Discharge of Stormwater to Surface Water**

The discharge of stormwater to surface water, or to land where the discharge enters surface water, where the rate of discharge is greater than 125 litres per second for a 10 minute duration 10% AEP storm event (10 year return period storm) is a restricted discretionary activity subject to the following conditions:

- (a) The suspended solids concentration of the discharge shall not be greater than 150g/m³, except where a 10 minute duration 10% AEP storm event (10 year return period storm) is exceeded.
- (b) The discharge shall be substantially free of grease, oil, scums and foam.
- (c) The discharge shall not contain any stormwater from a timber preservation site, timber treatment site, or a site where chemically treated timber is stored.
- (d) The discharge shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (e) The discharge shall not cause nor contribute to flooding or ponding on any land or property owned or occupied by another person.
- (f) The discharge shall not contain hazardous substances, or substances that are toxic to aquatic ecosystems (as measured relative to the ANZECC Guidelines for Fresh and Marine Water Quality, 2000²⁵).
- (g) The discharge shall not contain any wastes (including, but not limited to, wastewater or condensates) from a trade or industrial process.
- (h) The discharge shall not cause a conspicuous change in the colour of the receiving waters.
- (i) Where the discharge is to a part of a receiving water body that is classified as Water Supply, the discharge shall not contain any substance that renders the water unsuitable for treatment (equivalent to coagulation, filtration, disinfection and micro-filtration) for human consumption.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section of this regional plan.

The Regional Council restricts its discretion to the following matters:

- (a) Management and maintenance of the stormwater system to achieve the rule conditions.
- (b) Measures to avoid, remedy or mitigate the adverse effects of the stormwater discharge on:
 - (i) Erosion or land instability.
 - (ii) Water quality.
 - (iii) Flooding of land owned or occupied by another person.
 - (iv) Aquatic ecosystems, indigenous flora and fauna, and the migration of fish species.
 - (v) Users of the water body, including recreational use.
 - (vi) Sites of significance to tangata whenua.

²⁵ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

- (c) The administrative charges under section 36 of the Act.
- (d) Monitoring requirements.

Explanation/Intent of Rule

To provide for discharges of stormwater to water where the volume of discharge is greater than that considered to be minor, as specified in DW R20, but where the adverse effects are known or can be predicted, and can be controlled through appropriate resource consent conditions. Where the discharge of stormwater to surface water does not comply with DW R20, and is not a restricted discretionary activity under DW R21, it is a discretionary activity under DW R8. Refer to Flow Diagram DW 1 to assist reading of this rule.

DW R22 (Rule 31)**Permitted – Discharge of Stormwater to Land Soakage**

The discharge of contaminated stormwater to land soakage is a permitted activity, subject to the following conditions:

- (a) The rate of discharge shall not exceed 125 litres per second for a 10 minute duration 10% AEP storm event (10 year return period storm).
- (b) The discharge shall not cause the production of conspicuous oil or grease films, scums or foams, or floatable materials.
- (c) The discharge shall not contain any wastes (including, but not limited to, wastewater or condensates) from a trade or industrial process.
- (d) The discharge shall not contain any stormwater from a timber preservation site, timber treatment site, or a site where chemically treated timber is stored.
- (e) The discharge shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (f) The discharge shall not cause nor contribute to flooding or ponding on any land or property owned or occupied by another person.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section of this regional plan.

Explanation/Intent of Rule

To allow point source discharges of clean stormwater and encourage the discharge to land soakage, where this is appropriate. Such discharges present a low risk to the environment. DW R22 is consistent with DW O13, DW P21, and DW M44. Refer to Flow Diagram DW 1 to assist reading of this rule.

DW R23 (Rule 31A)**Restricted Discretionary – Discharge of Stormwater to Land Soakage**

The discharge of contaminated stormwater to land soakage, where the rate of discharge is greater than 125 litres per second for a 10 minute duration 10% AEP storm event (10 year return period storm) is a restricted discretionary activity subject to the following conditions:

- (a) The discharge shall not contain any hazardous substances.
- (b) The discharge shall not contain any wastes (including, but not limited to, wastewater or condensates) from a trade or industrial process.
- (c) The discharge shall not contain any stormwater from a timber preservation site, timber treatment site, or a site where chemically treated timber is stored.
- (d) The discharge shall not cause or induce land erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (e) The discharge shall not cause nor contribute to flooding or ponding on any land or property owned or occupied by another person.

This activity is also subject to the requirements of the rules in the Rotorua Lakes section of this regional plan.

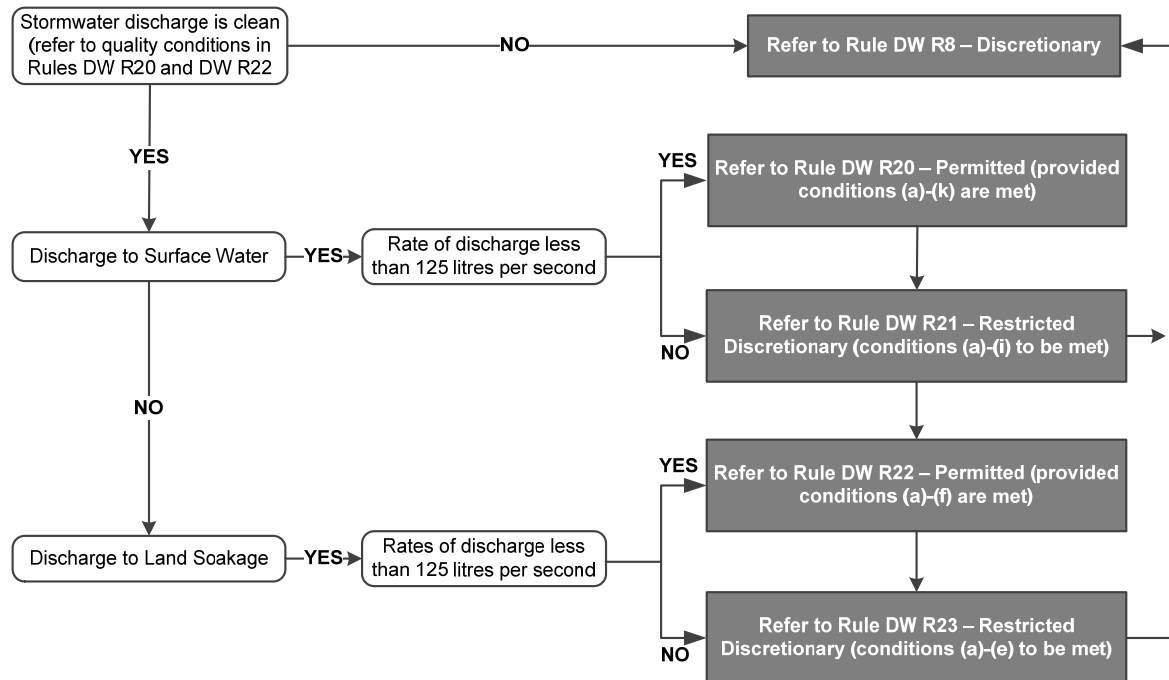
The Regional Council restricts its discretion to the following matters:

- (a) Management and maintenance of the stormwater system to achieve the conditions.
- (b) Measures to avoid, remedy or mitigate the adverse effects of the stormwater discharge on:
 - (i) Erosion or land instability.
 - (ii) Flooding of land owned or occupied by another person.
 - (iii) Indigenous flora and fauna.
 - (iv) Sites of significance to tangata whenua.
- (c) The administrative charges under section 36 of the Act.
- (d) Monitoring requirements.

Explanation/Intent of Rule

To provide for discharges of stormwater to land where the volume of discharge is greater than that considered to be minor, as specified in DW R23, but where the adverse effects are known or can be predicted, and can be controlled through appropriate resource consent conditions. Where the discharge of stormwater to land does not comply with DW R22, and is not a restricted discretionary activity under DW R23, it is a discretionary activity under DW R8. Refer to Flow Diagram DW 1 to assist reading of this rule.

Flow Diagram DW 1 – Stormwater Discharges



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Contaminated Land

Issue

DW I12 (Issue 28) **Discharges of contaminants, including hazardous substances, from contaminated land and the remediation of contaminated land, have the potential to cause significant adverse effects on the environment and public health.**

Land can become contaminated by many different uses. Potential high risk land uses may include, but are not limited to, closed landfills, municipal rubbish dumps, timber treatment sites, timber treatment waste dumps, and industrial dump sites. Some of these may produce leachate many years after the site has been closed due to the percolation of rainfall through decomposing waste of contaminated soil.

Discharges of contaminants from contaminated land into surface and groundwater can occur as a result of stormwater runoff, percolation, migration of contaminants through land and discharges resulting from site remediation.

Specific problems with the management of contaminated land occur where:

- (a) Information about the locations of contaminated land within the region is incomplete, and where locations are known, the characteristics of the land and their actual or potential adverse effects are not always known in detail.
- (b) The respective responsibilities of the Regional Council, the city council, district councils and other parties for identifying, investigating and monitoring contaminated land, and where necessary promoting or requiring remediation, are not clearly defined.
- (c) The contaminated land is an orphan site (refer to Definition of Terms).

<i>Objective</i>	DW O16
<i>Policy</i>	DW P22, DW P23, DW P24, DW P25, DW P26, DW P27
<i>Method</i>	DW M45, DW M46, DW M47, DW M48, DW M49, DW M50, DW M51, DW M52, DW M53, DW M54, DW M55
<i>Rule</i>	DW R24, DW R25

Objective

- DW O16 (Objective 38) The significant adverse effects of existing contaminated land are remedied or mitigated.

Policies

- DW P22 (Policy 58) To encourage remediation of contaminated land, where such land poses a significant risk of adverse effects to water, ecosystems, the life-supporting capacity of soil or public health.
- DW P23 (Policy 59) To use nationally accepted environmental and health guidelines, standards for soil and water contamination, and standards for discharges from contaminated land, when undertaking contaminated land investigations in order to determine whether a site poses a significant risk of adverse effects.
- DW P24 (Policy 60) To use processes under the Act or any other legislation to ensure that any potential adverse effects caused by remediation or disturbance of contaminated land are avoided, remedied or mitigated.
- DW P25 (Policy 61) To ensure that information about contaminated land is collected, recorded and maintained consistently across the Bay of Plenty region, and in a manner consistent with national best practice.
- DW P26 (Policy 62) To prioritise investigation of land that is or may be contaminated on the basis of the potential environmental and health risks they present.
- DW P27 (Policy 63) To manage orphan contaminated land in accordance with national policy.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

- DW M45 (Method 141) Encourage:
- (a) The community, particularly landowners and occupiers, to come forward with information about land they believe to be contaminated.
 - (b) Owners and occupiers of land registered on the contaminated land database maintained by the Regional Council, the city council and district councils that have not been investigated, to provide information to the Regional Council about whether the land is actually contaminated and any risks associated with the contamination.

Wherever possible, landowners and occupiers should not be penalised for supplying information on contaminated land in order to promote information sharing, investigation and remediation of sites.

Working With Other Resource Management Agencies

- DW M46 (Method 142) Continue to maintain a database that records information about land in the region that is or may be contaminated, and manage the database information according to clear and publicly available protocols. This is best achieved in association with the city council and district councils.
- DW M47 (Method 143) Work with the city council and district councils and Government to ensure that significant adverse effects arising from orphan contaminated land are avoided, remedied or mitigated.

Regulatory Methods

Cross-Reference Also refer to LM M18, DW R24 and DW R25.

Matters Relevant to Resource Consent Applications and Processing

- DW M48 (Method 144) Set remediation standards for discharges on resource consent conditions for contaminated land remediation using nationally accepted environmental and health guidelines, and soil and water acceptance criteria.
- DW M49 (Method 145) Require resource consents for discharges from contaminated land which pose a significant risk of adverse effects to the environment or public health, and where no remediation is planned. Consent conditions will establish monitoring and reporting requirements.
- DW M50 (Method 146) Provide for the remediation of small scale, low risk areas of contaminated land as permitted activities. (Refer to DW R24)
- DW M51 (Method 147) Use the enforcement provisions in the Act if contaminated land is causing significant adverse effects but the owner or occupier is unwilling to undertake remediation.
- DW M52 (Method 148) Consult with the relevant city council or district council when processing resource consents for remediation or other disturbance of contaminated land.

Monitoring and Investigation of the Environment

- DW M53 (Method 149) Systematically identify, in association with the city council and district councils, land in the region that may be contaminated with hazardous substances, focusing on known high risk land uses that have not already been investigated in accordance with national guidelines. Potential high risk land uses may include, but not be limited to, closed landfills, municipal rubbish dumps, timber treatment sites, timber treatment waste dumps, and industrial dump sites.
- DW M54 (Method 150) Work with the city council, district councils and Government to obtain, for orphan contaminated land registered on the database that has not been investigated, information about whether the land is actually contaminated and any risks associated with the contamination.
- DW M55 (Method 151) Rank known contaminated land (including those registered on the contaminated land database) by level of risk to human health or the environment, using the Ministry for the Environment's rapid screening assessment procedure, in order to prioritise sites for investigation and/or remediation.

Rules

DW R24 (Rule 34) Permitted – Active Remediation of Contaminated Land

The active remediation of contaminated land where:

- 1 The only hazardous substances present in soil at the site are motor vehicle or heating fuels or lubricants (e.g. mineral oils, petrol, diesel, kerosene and their constituents and breakdown products) and the total volume of contaminated soil at the site is less than 400 cubic metres,
- Or
- 2 The remediation activity constitutes immediate action to address a spill of hazardous substances at a site where no previous contamination with hazardous substances existed,

Is a permitted activity subject to the following conditions:

- (a) In the case of (1) above, the remediation activity shall occur over a period not greater than two (2) consecutive months.
- (b) In the case of (2) above, the remediation activity at the site shall cease (whether or not it has been completed) no later than two (2) months after the occurrence of the event that caused the contamination, unless a resource consent to continue the remediation has been granted during that period.
- (c) Notification shall be given to the Regional Council, no less than one week prior to the remediation commencing or, in the case of (2) above, as soon as reasonably practical.
- (d) The occupiers of adjacent properties and any other persons who may be affected by the remediation activity or the contaminants shall be notified not less than one week prior to the remediation commencing or, in the case of (2) above, as soon as reasonably practical.
- (e) All practical measures shall be taken to avoid discharges of hazardous substances to water during and following completion of the remediation activity, and to remedy or mitigate such discharges if they do occur.
- (f) Any excavated contaminated soil is disposed of to an appropriately authorised facility or site, and evidence of this provided to the Regional Council.
- (g) Within three months of completion of the remediation, a site validation report shall be prepared in accordance with “Guidelines for Reporting on Contaminated Sites”, Ministry for the Environment, June 2001²⁶, and a copy provided to the Regional Council.

Advisory Note

- 1 This rule authorises only the remediation activity at the site, not the subsequent disposal of contaminated material. Contaminated soil, water and other material extracted or removed from the site must be treated and/or disposed of in accordance with all other relevant legal requirements, including but not limited to regional plan rules, district plan rules, trade waste bylaws and landfill resource consents. Health-related legislation such as the Health and Safety in Employment Act 1992 will also apply.
- 2 When a spill of hazardous substances occurs, the Regional Council and the New Zealand Fire Service must be advised as soon as practical.
- 3 Condition (e) does not provide immunity from enforcement action or prosecution if discharges from the site cause significant adverse effects on the environment.
- 4 For any discharges of contaminants to air, the remediation activity shall also comply with the requirements of the Operative Bay of Plenty Regional Air Plan.
- 5 Discharges of stormwater from site remediation activities must comply with DW R20, DW R21, DW R22, DW R23, or a resource consent must be obtained under DW R8.

²⁶ Ministry for the Environment, June 2001. Guidelines for reporting on Contaminated Sites. Wellington, New Zealand.

Explanation/Intent of Rule

To allow the active remediation of contaminated sites where the risk is small, or where it would be more appropriate to remedy the contamination immediately. This is an efficient and effective means of managing remediation where either the risk of adverse environmental effects is low, or the activity is necessary to prevent adverse effects from occurring or becoming significant.

DW R25 (Rule 35) Restricted Discretionary - Remediation or Disturbance of Contaminated Land

The:

- 1 Discharge of contaminants to water, or to land, or to land in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water, resulting from the remediation or other disturbance of a contaminated site;

Or

- 2 Disturbance of a contaminated site;

that is not permitted by DW R24 is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) The remediation processes to be employed.
- (b) Degree and extent of off-site discharges.
- (c) Reporting, information and monitoring requirements.
- (d) The duration of the consent.
- (e) The administration charges under section 36 of the Act.
- (f) Matters to achieve DW O16, DW P22 and DW P23, and DW M48 and DW M52.

Advisory Note

- 1 Remediation and disturbance include any active modification of the site, including but not limited to earthworks, in-situ remediation and injection of liquids or gases.
- 2 Discharges to air from contaminated sites are subject to the Operative Bay of Plenty Regional Air Plan. Provisions in district plans, the Health Act 1956 and the Health and Safety in Employment Act 1992 may also apply in cases where a contaminated site affects or may affect human health.

Explanation/Intent of Rule

To allow the Regional Council to assess the effects of any discharges of contaminants to the environment resulting from active remediation and other disturbances of contaminants on a case by case basis. Some forms of active remediation or disturbance may lead to significant adverse effects.

OSET On-Site Effluent Treatment

On-site Effluent Treatment discharges are currently managed by the Operative On-Site Effluent Treatment Regional Plan.

Contents

WQ Water Quantity and Allocation 1

Take and Use of Surface Water and Ground Water

Issues	1
Objectives	2
Policies	3
Methods of Implementation	9
Rules.....	19

Damming and Diversion of Water

Issues	27
Objectives	28
Policies	28
Methods of Implementation	29
Rules.....	30

Control of Water Levels in Natural Lakes

Issues	39
Objectives	40
Policies	41
Methods of Implementation	42
Rules.....	43

WQ Water Quantity and Allocation

The contents of section 5.1 are subject to Proposed Plan Change 9 (Region-wide Water Quantity) notified on 18 October 2016 therefore no changes have been made to this section by this amendment.

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1, except where Plan Change 9 applies.

The take and use of geothermal fluid is covered by provisions in the Geothermal Resources section of this regional plan, and the Rotorua Geothermal Regional Plan (for activities in the Rotorua Field), and is not subject to the provisions in section 5 Water Quantity and Allocation.

5.1 Take and Use of Surface Water and Groundwater

Para 1 Section 5.1 of this regional plan addresses consumptive use of water where the water is taken out of a surface water body or groundwater system (e.g. irrigation, industrial use, municipal water supply). The non-consumptive use of water where water is used within the water body and not abstracted from the river, stream or lake (e.g. hydro-generation systems), is addressed in section 5.2 Damming and Diversion.

5.1.1 Issues

Issue 29 **The over-abstraction of surface water can degrade water quality and adversely affect ecological values, landscape values, recreational values, Maori customary values and traditional instream uses, the downstream environment, and existing uses.**

Para 1 'Pressure abstraction' areas are those where surface water is at or near full allocation relative to the allocation policy, which determines the flow available for use from a specific stream or river. Catchments that are under abstraction pressure are largely in the western Bay of Plenty area (e.g. Waiari, Waimapu, Waipapa, Ohaurere, Kopurereroa, Mangawahi, Uretara (Wharawhara streams), and the Haumea Stream catchment on the Galatea plains. Municipal water takes consume a large proportion of the available low flow allocation in the majority of pressure abstraction catchments. Adverse effects of over-abstraction that are evident in the Bay of Plenty are reduced habitat for fish and invertebrates, reduced water velocities (which can allow the accumulation of sediment and algae), reduced dilution of contaminants (which increases the impact of contaminants such as ammonia), increased water temperature, and reduced oxygen concentration as re-aeration is reduced and plant respiration increases. Over-abstraction of surface water can adversely affect other users, including non-consumptive uses.

<i>Objective</i>	40, 41, 46
<i>Policy</i>	64, 66, 67, 68, 69, 72, 76, 79
<i>Method</i>	54, 66, 67, 159, 166, 167, 169, 171, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 185
<i>Rule</i>	41, 43
<i>Schedule</i>	7

Issue 30	Increasing demand for water in the Bay of Plenty is placing pressure on streams, rivers, springs and groundwater.
Para 1	Increasing water demand in the Bay of Plenty is evident due to increasing amounts of water being abstracted for irrigation, domestic water supply (e.g. life-style blocks), and municipal water supply as a result of population growth. The lack of availability of water resources may limit land use intensification or urban growth in some areas of the region, as increased water abstraction may cause significant adverse effects on the environment.
	<i>Objective</i> 44 <i>Policy</i> 68, 77, 78 <i>Method</i> 152, 153, 154, 155, 156, 157, 158, 159 <i>Rule</i> 39, 40, 41, 52,
Issue 31	The inefficient use of water can exclude other abstractors from streams and rivers.
Para 1	Other potential water abstractors may be excluded where a water body is fully allocated, but actual water use is lower than the volume consented by water permits. Inefficient water use also occurs where a greater volume of water is taken than that required to operate the use without wastage.
	<i>Objective</i> 39 <i>Policy</i> 73 <i>Method</i> 155, 157, 160, 161, 162, 164, 168, 170 <i>Rule</i> 40, 41, 41A, 43
Issue 32	Over-abstraction of groundwater can degrade groundwater quality, and reduce water levels in aquifer systems and associated surface water bodies.
	<i>Objective</i> 43 <i>Policy</i> 70, 71, 74, 75 <i>Method</i> 54, 66, 155, 156, 159, 165, 166, 167, 169, 183, 184 <i>Rule</i> 38, 42, 43
Issue 33	Continued abstraction of water from streams and rivers during drought conditions may reduce water flows below that necessary to sustain aquatic life.
Para 1	It may be necessary to restrict the take and use of surface water during meteorological and hydrological droughts to ensure aquatic life is sustained.
	<i>Objective</i> 45 <i>Policy</i> 80 <i>Method</i> 158, 163, 172 <i>Rule</i> 41, 41A, 43
Issue 34	Water abstraction from streams and rivers can reduce stream flow variability, which is necessary for instream biota and flushing of stream systems.
	<i>Objective</i> 42 <i>Policy</i> 65, 68 <i>Method</i> 152, 155, 158, 159, 169, 171, 172, 173, 175, 176, 177, 181, 185 <i>Rule</i> 43
5.1.2	Objectives
Objective 39	Efficient use of water resources in the Bay of Plenty.
Objective 40	Allocation of water resources in the Bay of Plenty recognises hydroelectric electricity generation as a renewable energy source.

- Objective 41 Water flows in streams and rivers are maintained to:
- (a) Provide protection for existing aquatic life in the water body.
 - (b) Maintain identified significant ecological values, landscape values, recreational values, and Maori customary values and traditional instream uses of rivers and streams.
 - (c) Maintain water quality relative to the assimilative capacity of the water body, and the Water Quality Classification of the water body.
 - (d) Avoid or mitigate adverse effects on downstream environments, and existing uses of the water resource.
- Objective 42 Instream flow variability is maintained to sufficient levels to allow for instream biota and stream flushing requirements.
- Objective 43 Abstraction of groundwater at a volume and rate that does not:
- (a) Permanently or unsustainably lower water levels or decrease groundwater quality in aquifer systems.
 - (b) Permanently or unsustainably lower water levels in streams or rivers where groundwater and surface water bodies are linked.
- Objective 44 Land use changes, including urban growth and land use intensification, are planned to account for water resource limitations of the location, particularly in areas with existing and projected high water demand, and limited water resources.
- Objective 45 Water abstractions account for water availability limitations during drought events.
- Objective 46 Adequate flows are restored to rivers, streams, including individual reaches where allocation or diversion causes water flow to be at or below the Instream Minimum Flow Requirements set in Schedule 7.

5.1.3 Policies

- Policy 64 To establish Instream Minimum Flow Requirements for streams and rivers where water abstraction occurs, that will:
- (a) Provide protection for existing aquatic life in the water body.
 - (b) Maintain identified significant ecological values, landscape values, recreational values, Maori customary values and traditional instream uses of rivers and streams where such values can be adversely affected by lower water flows.
 - (c) Maintain water quality relative to the assimilative capacity and water quality classification of the water body.
 - (d) Avoid or mitigate adverse effects on downstream environments.
 - (e) Provide for the assimilative capacity of the river or stream where there are existing discharges of contaminants to water (refer to Methods 172 and 177).
- Policy 65 To allow for flow variation in streams and rivers when allocating water, and controlling the effects of damming and diversion activities.
- Policy 66 To allocate surface water according to Policy 71, Policy 73, and Policy 69, and the following (refer to Figure 5 for explanation):

Table 13 Water Allocation Methodology

	Aspect	Policy
Use of Water excluding existing Hydroelectric Power Schemes listed in Schedule 11		
(a)	Low flow allocation.	To allocate no more than the maximum allocatable flow in a stream reach. The maximum allocatable flow is Q_5 7 day low flow minus the instream minimum flow requirement.
(b)	High flow allocation (water harvesting) during periods of high flow.	To consider allocating water flow above the Q_5 7 day low flow for water takes that are of short duration, and do not compromise the instream minimum flow requirement.
(c)	Water allocation for new Hydroelectric Power Schemes that are not otherwise provided for in (a) or (b).	To consider allocating water for new Hydroelectric Power Schemes on a case by case basis to avoid, remedy or mitigate adverse effects on the environment, while: <ul style="list-style-type: none"> (i) Maintaining the instream minimum flow requirements set in accordance with this regional plan (refer to Schedule 7 or Policy 68). (ii) Requiring the efficient use of the water. Also refer to Policies 65, 67 and 72, and Section 5.2 for Policies relating to the Damming and Diversion of Water.
Dam, diversion or take of water associated with existing Hydroelectric Power Schemes listed in Schedule 11		
(d)	Water allocation for existing Hydroelectric Power Schemes listed in Schedule 11.	To allocate water to avoid, remedy or mitigate adverse effects on the environment, while having regard to relevant instream minimum flow requirements set in accordance with this regional plan, and the value of investment by the existing consent holder. Policy 66(d) applies at the time existing resource consents come in for replacement. Also refer to Section 5.2 for policies relating to the Damming and Diversion of Water.

Notes:

- 1 All consumptive abstractions and non-consumptive uses, excluding existing Hydroelectric Power Schemes listed in Schedule 11, as defined by their existing resource consents, will be allocated water in accordance with Policy 66(a), (b) and (c). Both consumptive and non-consumptive water uses will reduce the remaining allocatable flow, even though non-consumptive uses may not physically take water out of the water body. Water allocated to non-consumptive uses may be available for allocation downstream of the activity site subject to Policy 66(a), (b) and (c) as appropriate. The release of water from dams is addressed by Policy 81(a).
- 2 Resource consent conditions will specify the rate of take of water allocated to a consumptive or non-consumptive use.
- 3 In relation to Policy 66(d), the effects of existing Hydroelectric Power Schemes listed in Schedule 11 will also be considered on case by case basis in accordance with Policy 83. Both consumptive and non-consumptive water uses will reduce the remaining allocatable flow, even though non-consumptive uses may not physically take water out of the water body. Water allocated to non-consumptive uses may be available for allocation downstream of the activity site subject to Policy 66(a), (b) and (c) as appropriate. The release of water from dams is addressed by Policy 81(a).

Policy 67 To take into account adverse effects of water abstraction from rivers and streams on existing downstream water users, including non-consumptive users.

Policy 68 To consider granting an application for a resource consent to take water from a river or stream, subject to an instream minimum flow that is an alternative to that specified in Schedule 7 or Method 179, on a case by case basis, where:

- (a) The applicant has proposed an appropriate Instream Minimum Flow Requirement based on new or improved scientific knowledge; and

- (b) The adverse effect on aquatic ecosystems is no more than minor; and
- (c) The adverse effect on significant landscape, recreational, and Maori customary and traditional heritage values is no more than minor (where the values have been identified as significant through the use of the Criteria for Assessing Specified Matters in the Bay of Plenty Region in the Bay of Plenty Regional Policy Statement); and
- (d) The matters listed in Method 177(c) have been considered; and
- (e) The adverse effects of the take on existing downstream users, including non-consumptive users, are no more than minor.

Policy 68A

When considering any application the consent authority must have regard to the following matters:

- (a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem and
- (b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.

This policy applies to:

- (a) any new activity and
- (b) any change in the character, intensity or scale of any established activity –

that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).

This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management takes effect on 1 July 2011.

Note: This policy was inserted to meet the requirements of the National Policy Statement for Freshwater Management 2011.

Policy 69

To manage water allocation on surface water bodies where there are existing Hydroelectric Power Schemes listed in Schedule 11 in accordance with the following, until resource consents for the existing Hydroelectric Power Schemes come in for replacement:

Table 14 Water Allocation on Surface Water bodies with Hydroelectric Power Schemes

	Hydroelectric Power Scheme as listed in Schedule 11	Water Allocation Management
(a)	Kaimai	<p>(i) Upstream of the:</p> <ul style="list-style-type: none"> • McLaren Falls Dam on the Wairoa River, including Mangakarengorengo River and Tributaries, Opuia River and tributaries (including Ngatuhua, Awakotuku and Mangaonui Streams), Mangapapa River and tributaries; and • Dam and intake structure on the Omanawa River; and • Dam on the Ruakaka Stream; and • Points on Tributary streams 1, 2 and 3 of the Wairoa River where they intersect the Ruahihi Canal, <p>water allocation held by existing consent holders (other than the power scheme owner) will be recognised until the consent expires.</p> <p>(ii) There is no more surface water available for allocation from the following</p>

	Hydroelectric Power Scheme as listed in Schedule 11	Water Allocation Management
		<p>areas:</p> <ul style="list-style-type: none"> Upstream of the McLarens Falls Dam on the Wairoa River, including Mangakarengorengo River and tributaries, Opuiki River and tributaries (including Ngatuhua, Awakotuku and Mangaonui Streams), Mangapapa River and tributaries; Upstream of the dam and intake structure on the Omanawa River; Upstream of the dam on the Ruakaka Stream; Upstream of the points on tributary streams 1, 2 and 3 of the Wairoa River where they intersect the Ruahihi Canal; <p>unless the water flow in the rivers and streams are above the levels allocated to the power scheme owner.</p> <p>(iii) On the Wairoa River between the McLarens Falls Dam and the Ruahihi Power Station, surface water will be allocated in accordance with Policy 66(a). Any water released from the dam above the required discharge flow is available for reallocation under Policy 66(b) while fully accounting for recreational use between the McLaren Falls Dam and the State Highway 29 Bridge, and where the proposed users recognise that the additional flow is subject to the operating regime used by the hydroelectric power scheme owner.</p> <p>(iv) On the:</p> <ul style="list-style-type: none"> Wairoa River downstream of the Ruahihi Power Station; Omanawa River downstream of the dam and intake structure; Ruakaka Stream downstream of the dam; Mangakarengorengo River between the diversion structure and McLarens Falls Dam; Opuiki River and tributaries (including Ngatuhua, Awakotuku and Mangaonui Streams) between the diversion structures and McLarens Falls Dam; Mangapapa River between the diversion structure and McLarens Falls Dam; <p>surface water will be allocated in accordance with Policy 66(a). Any water released from the scheme or dam is available for allocation under Policy 66(b) where the proposed users recognise that the additional flow is subject to the operating regime used by the hydroelectric power scheme owner.</p>
(b)	Wheao	<p>(i) Upstream of the:</p> <ul style="list-style-type: none"> Rangitaiki Intake structure on the Rangitaiki River; and Wheao Intake structure on the Wheao River; and Flaxy Dam on Flaxy Creek, <p>water allocation held by existing consent holders (other than the power scheme owner) will be recognised until the consent expires.</p> <p>(ii) There is no more surface water, or groundwater connected to surface water bodies, available for allocation from the following areas:</p> <ul style="list-style-type: none"> Rangitaiki River and tributaries above the Rangitaiki Intake structure; Wheao River and tributaries above the Wheao Intake structure; Flaxy Creek and tributaries above the Flaxy Dam; <p>Unless the river flow into Lake Matahina is greater than 160 cubic metres per second (160,000 litres per second).</p>
(c)	Aniwhenua	<p>(i) Upstream of the Aniwhenua dam, water allocation held by existing consent holders (other than the power scheme owner) will be recognised until the consent expires.</p> <p>(ii) There is no more surface water or groundwater connected to surface water bodies, available for allocation from the Rangitaiki River and tributaries above the Aniwhenua Dam unless the river flow into Lake Matahina is greater than 160 cubic metres per second (160,000 litres per second).</p>

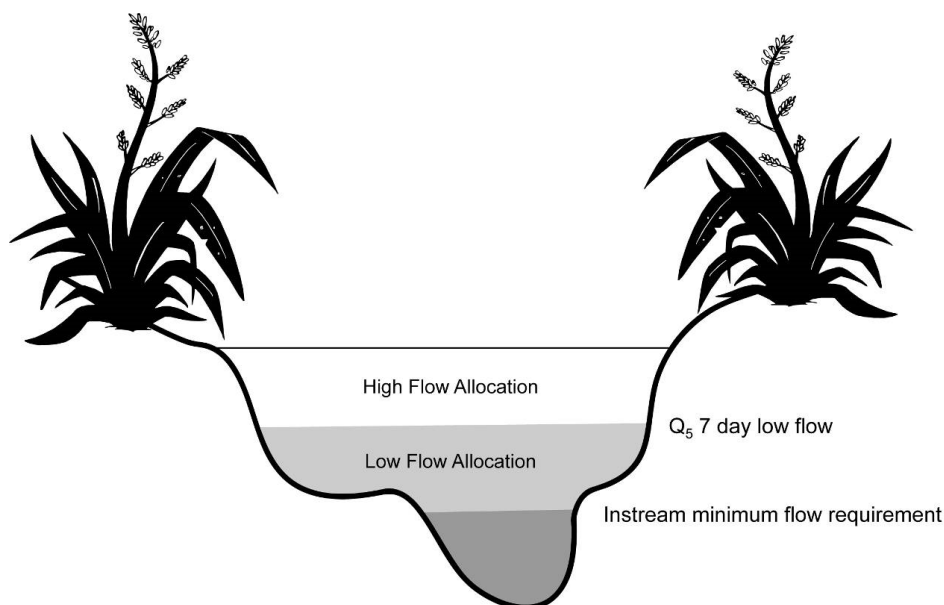
	Hydroelectric Power Scheme as listed in Schedule 11	Water Allocation Management
(d)	Matahina	<ul style="list-style-type: none"> (i) Upstream of the Matahina dam, water allocation held by existing consent holders will be recognised until the consent expires. (ii) There is no more surface water or groundwater connected to surface water bodies, available for allocation from the Rangitaiki River and tributaries above the Matahina Dam unless the river flow into Lake Matahina is greater than 160 cubic metres per second (160,000 per second). (iii) Water downstream of the Matahina dam will be allocated in accordance with policy 66(b) where the proposed users recognise that the additional flow is subject to the operating regime used by the hydroelectric power scheme owner.
(e)	Karaponga	<ul style="list-style-type: none"> (i) Upstream of the Karaponga dam, water allocation held by existing consent holders (other than the hydroelectric power scheme owner) will be recognised until the consent expires. (ii) There is no more surface water available for allocation from the Karaponga Stream and tributaries above the Karaponga dam. (iii) Water downstream of the Karaponga dam will be allocated in accordance with Policy 66(a). Any additional water released from the dam above the required discharge flow from the dam is available for allocation under Policy 66(b) where the proposed users recognise that the additional flow is subject to the operating regime used by the hydroelectric power scheme owner.

Note:

- 1 Existing consented surface water and shallow groundwater takes, and transfers of such consents in the areas specified in Policy 69 will be allowed to continue. However, there will be no increase in the rate or volume of surface water and shallow groundwater allocated upstream of the Hydroelectric Power Schemes listed in Policy 69, except for water harvesting where river flows are greater than the levels already allocated to the Hydroelectric Power Scheme.

Policy 70	To allocate groundwater according to Policy 73, and at a sustainable yield that avoids permanently or unsustainably lowering water levels, or degrading water quality in aquifer systems.
Policy 71	To allocate water on a first in first served basis, subject to efficient use as specified in Policy 73.
Policy 72	To ensure that any allocation of water does not derogate from any existing consents.
Policy 73	To require the efficient use of water where the efficiency is assessed as defined in Method 168.
Policy 74	To investigate the linkage between groundwater and surface water bodies to determine if groundwater takes are adversely affecting water flows in streams, rivers and springs.

Figure 5 Water Allocation Program



- Policy 75 To take appropriate action within the framework of this regional plan (including future plan changes) to address the adverse effects of groundwater takes on associated surface water bodies where investigations prove this is a significant issue in the areas noted in Method 184.
- Policy 76 To identify catchments that are under abstraction pressure, relative to low flow allocation in Policy 66, and take appropriate action to manage consented water takes in those areas. Pressure abstraction areas are those where surface water abstraction in a stream or river reach is at, or near, full allocation relative to the allocation limits in Policy 66.
- Policy 77 To encourage landowners, developers, the city council and district councils to account for water resource limitations before making any land use changes, including land use intensification and urban growth.
- Policy 78 To develop and implement a long-term water sustainability strategy to manage future water use in areas of high population growth, or where there is high demand for commercial, industrial, agricultural or horticultural uses.
- Policy 79 To assess the adverse effects of proposed abstraction of surface water or the discharge of contaminants to water on the assimilative capacity of the water body when processing resource consent applications. The assimilative capacity will be determined relative to the water quality classification, instream minimum flow requirement, ecological values, landscape values, recreational values, Maori customary values and traditional instream uses of the water body, amount of water already abstracted from the water body, and cumulative effect of existing and proposed activities in the catchment.
- Policy 80 To use appropriate measures to restrict the take and use of water during hydrologic or meteorological drought events to ensure the instream minimum flow requirement is not breached as a result of abstraction, while recognising and providing for public health requirements.

5.1.4 *Methods of Implementation*

Environment Bay of Plenty will:

Long-Term Strategic Overview

Method 152 Develop a long-term water sustainability strategy in conjunction with the city council, district councils, stakeholders and the community (including representatives from commercial, industrial, horticultural and agricultural organisations) to manage future water use requirements in areas of high water demand. The strategy will:

- (a) Determine the potential long-term requirement for water resources in the region according to future population growth projections, possible horticultural and agricultural land use changes, and possible industrial growth.
- (b) Investigate:
 - (i) Surface water and groundwater resource quantities, availability and reliability.
 - (ii) Water quality, and the suitability of surface and groundwater quality for various uses.
 - (iii) The capacity of those surface and groundwater resources to meet expected future water demand.
 - (iv) Water resources that are likely to come under abstraction pressure.
- (c) Identify appropriate mechanisms to manage future water use to ensure water is allocated in a fair and equitable manner.
- (d) Integrate long-term development and the protection of the Bay of Plenty's water resources in relation to Policy 66 and 70.
- (e) Identify areas in the region where:
 - (i) There is a lack of water resources that may limit land use intensification or urban growth, as increased water abstraction may cause significant adverse effects on the environment.
 - (ii) The area is suitable for non-consumptive uses based on the availability of water resources.

Any changes to the regional plan resulting from the Water Sustainability Strategy will be in accordance with the requirements of Schedule 1 to the Act, and in consultation with the community and stakeholders.

Method 153 Make submissions on district plans and district resource consents in accordance with statutory contacts processes, to advise that land use changes, intensification and urban growth should not occur without adequate assessment of water resources, and account for any limitations on the available resource.

Method 154 Undertake surveys in areas of the region where water is at or near full allocation, or where location-specific projects are being carried out, to identify water takes permitted under Rule 38 and 41, and allowed by Section 14(3)(b) of the Act, for the purpose of establishing an accurate record of water takes in the region.

Method 155 Raise community awareness of:

- (a) The adverse effects of the over-abstraction of surface water on the ecological values, landscape values, recreational values, Maori customary values and traditional instream uses, downstream environments, and water users,
- (b) The finite characteristics of high quality fresh water resources,
- (c) The present allocation of surface and groundwater resources,
- (d) The long-term effects of depletion and degradation of groundwater resources, and
- (e) The availability of water resources in the region, abstraction pressures, and water limitations in the region.

- Method 156 Provide information to the community on the availability and quality of freshwater resources, where such information is available.
- Method 157 Encourage the community to:
- (a) Use water audits to identify water losses, wastage, or opportunities to conserve or use water more efficiently,
 - (b) Adopt efficient water use and conservation practices, and
 - (c) Utilise water conservation devices.
- Method 158 Promote and encourage the use of water management methods to reduce surface water abstraction during low flow, particularly in catchments under water abstraction pressure, and to buffer sensitive streams. Such methods include:
- (a) Collection of rainwater.
 - (b) Water harvesting and peak flow collection and storage.
- Method 159 Develop and implement a surface water allocation database system that will document the following information for each river or stream where water abstraction is occurring, where appropriate:
- (a) The instream minimum flow requirement for each stream reach.
 - (b) The total volume of water that is available for allocation from each stream reach.
 - (c) The total volume of water that has been allocated through resource consents.
 - (d) The volume of water that is available for allocation with regards to (b) and (c).
 - (e) Other information relevant to water allocation in the water body.

Education, Promotion and Provision of Information

- Method 160 Advise the community that section 3A of the Act provides the opportunity for people to use water that has been allocated to another person as part of a resource consent, where the activity complies with the conditions of the original resource consent and the permission of the consent holder has been obtained. **Note:** Water may only be taken from the surface water intake structure or groundwater bore on the original resource consent, but may then be piped or otherwise transported to another site or property.
- Method 161 Encourage the adoption of best irrigation management practices.
- Method 162 Provide information to the community about the need to use efficient pump technology and appropriate bore construction techniques to adequately and efficiently access groundwater resources. Efficient pump technology and bore construction is where a bore penetrates the aquifer from which water is being drawn at a depth sufficient to enable water to be drawn all year (i.e. the bore depth is below the range of seasonal fluctuations in groundwater level), is adequately maintained, of sufficient diameter, and is screened to minimise drawdown within the bore with a pump capable of drawing water from the base of the bore to the land surface.

Working with Other Resource Management Agencies and the Community

- Method 163 Establish a Memorandum of Understanding with the city council, district councils and the Medical Officer of Health regarding the management of water abstraction for municipal water supply during drought events.

Advocacy

- Method 164 Advocate that the city council and district councils use individual property water metering systems in reticulated areas to reduce water usage and wastage.

Regulatory Methods

Method 165 Consider using any of the following methods to address the adverse effects of groundwater takes on associated surface water bodies:

- (a) Initiate a Plan change to address the outcomes of the investigations in respect to the linkage between groundwater and surface water bodies. This may include, but not be limited to, provisions to control the proximity of groundwater bores to surface water bodies, and the volume of groundwater abstractions.
- (b) Work with existing groundwater abstractors, including water user groups where appropriate.

Cross-Reference Also refer to Method 54, Rules 38, 41, 42, 43.

Matters Relevant to Resource Consent Applications and Processing

Method 166 Give preference to existing holders of resource consents for the take and use of water when allocating water in pressure abstraction catchments and existing consents are being replaced. This is subject to the efficient use of water (refer to Policy 73), and that the mechanisms to use the water have already been installed in association with the existing consent (including, but not limited to, irrigation systems).

Method 167 Require the installation of a water measuring device to measure the take of water as a condition on a resource consent for the take of water where any of the following are met:

- (a) The take is from a stream where the Q_5 7day low flow is less than 250 litres per second.
- (b) The take is for municipal water supply.
- (c) The take is from groundwater and the aquifer is at or near full allocation of the sustainable yield. This will be applied to applications for the take and use of groundwater where a sustainable yield for an identified aquifer has been included in the regional plan through a publicly notified change.
- (d) The take is from surface water and the cumulative take from the river or stream is approaching full allocation within the river or stream reach.
- (e) The take is from surface water in an area that has sensitive or significant ecological values, landscape values, recreational values, or Maori customary values and traditional instream uses.
- (f) The take is from a surface water body where water quality is degraded below its Water Quality Classification, or it is necessary to maintain the assimilative capacity of the water body.

Resource consent applicants are advised to consult with Environment Bay of Plenty to determine if this requirement will be enacted for their proposed activity. Water measuring devices can be located on portable pumps. Water measuring devices or methods will be required, as appropriate, relative to the specific activity and site characterises. For example, where a take of water is physically restricted, that restriction may be accepted as a means to measure water flows. A flow meter is not necessarily required to comply with Method 167.

Method 168 Assess the efficiency of the water use of a proposed activity on a case by case basis relative to the proposed use with consideration to the following:

- (a) For irrigation activities – soil moisture deficit, evapotranspiration, and reasonable water coverage for crop type. Efficient irrigation use is the minimum volume of water required to optimise production while avoiding or mitigating adverse effects on the environment, using current best management practices.
- (b) For commercial, trade and industrial processes – sufficient to meet the needs of the use with minimal waste of water.
- (c) For municipal or community water takes – sufficient to meet the needs of the urban area, including projected population growth based on Census figures.

- Method 169 Include any of the following conditions on resource consents for the take and use of water where appropriate:
- (a) The maximum allowable water take over specific time periods and maximum abstraction rates.
 - (b) The maximum abstraction rate or volume during water short periods, and the river or stream flow levels at which the action outlined in Method 172 are to be implemented.
 - (c) Variations to the maximum allowable take over the duration of the consent.
 - (d) For the take and use of surface water, specify no-take days by catchment, or processes that will be enacted, to allow monitoring of stream flows in their natural condition.
- Note:** There are also conditions on surface water intake structures in this regional plan that must be complied with – refer to Rule 52 (permitted).
- Method 170 Require groundwater bores to be constructed to minimise the leakage of water, including, but not limited to, the protection of headworks against wastage, and the appropriate casing and construction of bores.
- Method 171 Use any of the following instruments, where appropriate, to manage existing water takes in surface water abstraction pressure catchments, and aquifers where groundwater levels or quality has been adversely affected:
- (a) Use water user groups to encourage the voluntary rostering or rationing of water takes, or pro rata reduction of water takes.
 - (b) Encouraging, or recommending the surrender or cancellation of unused resource consents pursuant to section 126 and 138 of the Act.
 - (c) Reviewing consent conditions on large water takes pursuant to section 128 (1) (b) of the Act. Environment Bay of Plenty will review a resource consent in accordance with section 128 of the Act, where it is proven that adverse environmental effects will occur or continue due to the exercise of that consent.
 - (d) Reviewing resource consent conditions according to actual use pursuant to section 128(1) (a) or (b) of the Act, while allowing for matters under Method 168 (b) and (c).
 - (e) Promote efficient use of water.
 - (f) Promote the use of alternative water sources.
- In relation to groundwater, such methods may be temporary until groundwater levels or quality return to 'normal', particularly where there is saline intrusion of fresh water.
- Method 172 Manage water abstraction during drought/low flow events according to the following:

Table 15 Water Management during Drought and Low Flow Events

	Water Flow	Action Taken
Consumptive Water Use		
(a)	River or stream flow is within 10% of the instream minimum flow requirement, or default instream minimum flow requirement.	Consider giving water shortage advice, including: <ul style="list-style-type: none"> (i) Advising abstractors to restrict non-essential use of water in order to meet water take reduction requirements; (ii) Providing water conservation advice to the community; (iii) Working with city and district councils to reduce community usage of water (iv) Suggesting rostering or rationing to abstractors. Water user groups may also be used to facilitate the voluntary reduction of abstraction during drought events.
(b)	River or stream flow is at the instream minimum flow requirement.	Issue, where appropriate, water shortage directions under Section 329 of the Act to apportion, restrict or suspend water takes, and restrict the discharge of contaminants to water. This includes rationing, rostering, water user groups, or no take days for selected or all abstractors. The memorandum of understanding developed under Method 163 will be implemented at this stage.
Non-Consumptive Water Use		
(c)	River or stream flow is at the instream minimum flow requirement.	Issue, where appropriate, water shortage directions under Section 329 of the Act to apportion, restrict or suspend water use. This includes requiring such uses to be managed to ensure that the discharge from a dam/impoundment is equal to the inflow.

Note:

Water flow is measured assuming all consumptive water takes are occurring, and at their full allocated rate, on the river or stream.

Method 173 Assess the adverse effects of the take of water from rivers and streams on downstream users, including non-consumptive users, in the resource consent process.

Method 174 Initiate early discussion with resource consent holders where an existing water take is above the water allocation limits in Policy 66 or Policy 70, or there is a diversion of water that is greater than required for the use. The discussion will identify measures to comply with the requirements of this regional plan, and be included in resource consent conditions at the time of consent renewal.

Monitoring and Investigation of the Environment

Method 175 Prioritise the establishment of instream minimum flow requirements using the methodology in Method 177 in catchments where:

- (a) There are large abstractions and low residual flows.
- (b) There are large abstractions and the water permits were issued prior to 1991.
- (c) A catchment is under abstraction pressure with regards to Policy 66(a). Pressure abstraction catchments will be identified using Method 182.
- (d) Significant ecological values, landscape values, recreational values, Maori customary values and traditional instream uses are potentially adversely affected by water abstraction.

This does not restrict the establishment of an instream minimum flow requirement by a resource consent applicant in other areas.

Method 176 Identify the ecological values, landscape values, recreational values, and Maori customary values and traditional instream uses of a stream or river reach at the time of determining an instream minimum flow in accordance with Method 177.

Method 177 Use the following process and methodology to determine an appropriate instream minimum flow requirement:

Table 16 *Instream Minimum Flow Requirement Methodology*

	Process	Methodology to be used
(a)	Determine the water flow necessary to sustain aquatic life evident in the stream or river reach.	<p>Use a scientifically accepted ecological assessment method, such as Instream Flow Incremental Methodology (IFIM) or similar. In assessing the effects on instream aquatic life, the method will consider factors including:</p> <ul style="list-style-type: none"> (i) Hydrological parameters. (ii) Substrate. (iii) Dissolved oxygen. (iv) Water temperature. <p>If RHYHABSIM is selected, use the following steps to interpret habitat flow response curves:</p> <p>Step 1 For each species present in the stream or river reach identify a primary flow where habitat is optimum (greatest). Where the flow equating to optimal habitat exceeds the stream's median flow, use the MALF as the primary flow.</p> <p>Step 2 Multiply habitat at the primary flow by the protection level in Method 178 to obtain a minimum flow for each species present in the stream or river reach. The point of inflection may be used instead of the scaled primary flow in cases where this exceeds the minimum flow otherwise produced, or where any additional loss of habitat is insignificant.</p> <p>Step 3 Identify the highest flow of the minimum flows identified for the species present. This is the Instream Minimum Flow Requirement necessary to sustain aquatic life.</p>
(b)	Determine the water flow necessary to sustain significant landscape, recreational, Maori customary and traditional heritage values, where these have been identified as significant through the use of the Criteria for Assessing Specified Matters in the Bay of Plenty Region in the Bay of Plenty Regional Policy Statement, and where those values may be adversely affected by water abstraction.	Ministry for the Environment Flow Guidelines for Instream Values (May 1998) ²⁷ .
(c)	Assess the importance of other factors that may be relevant to the environmental quality of the stream or river reach.	<p>Assess effect of lower water flow on the following factors, and take this into account if the effect is important:</p> <ul style="list-style-type: none"> (i) Water quality class in the river or stream, assimilative capacity of the river or stream and effects on downstream surface water bodies. (ii) Coastal or lake environments. (iii) Instream minimum flow requirements in downstream areas. (iv) Wetlands. (v) Fish migratory pathways and spawning sites. (vi) River or stream mouth closure (some mouths may naturally close periodically). (vi) Flow variability.

²⁷ Ministry for the Environment, May 1998. Flow Guidelines for Instream Values. Wellington, New Zealand.

	Process	Methodology to be used
		(viii) Habitat requirements of indigenous fauna and trout. (ix) Water temperature. (x) Aquatic flora requirements (e.g. watercress beds). (xi) Lagoon or estuary habitat requirements. The Ministry for the Environment Flow Guidelines for Instream Values (May 1998) may assist this assessment.
(d)	Determine the highest flow resulting from the assessments in (a) to (c).	
(e)	Assess the social, economic, cultural and environmental benefits and costs.	Have regard to the following matters: (i) The value of investment by existing consent holders. (ii) The effect on the operation of existing infrastructure. (iii) Other relevant social, economic, cultural and environmental matters relevant to the stream or river reach.
(f)	Determine the most appropriate instream minimum flow requirement resulting from the assessments in (a) to (e).	

Notes:

- 1 An Instream Minimum Flow Requirement will not be determined in the following circumstances:
 - (a) Ephemeral flowpaths (refer to Definition of Terms), or
 - (b) Artificial watercourses (refer to Definition of Terms), or
 - (c) Dry streams reaches allowed for in existing resource consent conditions.
- 2 The adverse effects of existing dams and diversions on aquatic ecosystems and water flows will be considered on a case by case basis when consents are reviewed or replaced consistent with Policy 83.
- 3 When the Instream Minimum Flow Requirement, determined under Method 177(f) is less than the flow determined by Method 177(d), then the flow determined under Methods 177(d) will included as an Advisory Note in Schedule 7.

Method 178 Use the following protection levels for aquatic life in relation to Method 177(a), except where alternative catchment-specific or area-specific protection levels are ecologically justified:

Table 17 Protection Levels for Aquatic Life

	Significance Criteria	Protection Level (percentage of primary habitat)
(a)	Short-jawed kokopu, Giant Kokopu.	100%
(b)	Banded Kokopu, koaro, black mudfish, dwarf galaxias.	95%
(c)	Significant trout fisheries and spawning habitat as identified in Schedule 1D.	95%
(d)	Diverse indigenous fish communities: Fish community featuring a significant high number of indigenous species. Constituent species that do not meet criteria in (a) or (b) are individually given this protection level.	90%
(e)	Other indigenous aquatic species, migratory pathways of trout to Schedule 1D areas, and other trout populations contributing to Schedule 1D areas.	85%

Notes:

- 1 Species in (a) and (b) have been sourced from Molly, J., and Davies, A., as upgraded by Tisdall, C., 1994. Setting Priorities for the Conservation of New Zealand's Threatened Plants and Animals. 2nd edition. Department of Conservation.
- 2 Documents that determine Instream Minimum Flow Requirements will include justification of the protection levels used for that catchment or area.

Method 179	Where an instream minimum flow has not been established in accordance with Method 177, the following flow will be used as the default instream minimum flow requirement: 90% of Q ₅ 7 day low flow.
Method 180	Initiate a plan change or plan variation in accordance with the requirements of the Act and in consultation with stakeholders and the community, to include Instream Minimum Flow Requirements in Schedule 7 of this regional plan, where they have been determined in accordance with Method 177. Plan changes for the following areas will be publicly notified by the specified dates: <ol style="list-style-type: none"> (a) Kaimai area, and Tauranga area – July 2007. (b) Rotorua area – July 2007. (c) Rangitaiki River downstream of the Matahina Dam – December 2007. (d) Eastern Bay of Plenty (excluding (c) and the Rangitaiki River above the Matahina Dam) – December 2008. (e) Main stem of the Rangitaiki River above the Matahina Dam, Whirinaki River, Haumea River – December 2009.
Method 181	Identify the location of each river or stream reach where an Instream Minimum Flow Requirement will apply as part of each plan change to Schedule 7.
Method 182	Identify pressure abstraction catchments in technical publications that report on stream flows. Such reports are prepared as part of NERMN.
Method 183	Determine sustainable yields for groundwater systems.
Method 184	Investigate the linkages between groundwater and surface water in the Bay of Plenty, as necessary, in the Galatea plains, Opotiki plains, and areas where there are large abstractions of groundwater in the recharge areas of springs used for municipal water supply.
Method 185	Monitor the ongoing appropriateness of instream minimum flow requirements with regards to the ecology of rivers and streams.
<u>Cross-reference</u>	Also refer to Methods 66 and 67.

5.1.5 Explanation/Principal Reasons

Para 1	The objectives, policies and methods in this section are necessary to promote the sustainable management of water resources, maintain good quantity of groundwater and surface water, and achieve the integrated management of water and land resources in the Bay of Plenty Region.
Para 2	Objective 39, Policy 73, Method 155, 157, 160, 161, 162, 164 and 170 are to require the efficient use of water, which is a major factor in the sustainable management of water resources. Environment Bay of Plenty is required to have particular regard to the efficient use and development of natural and physical resources by section 7(b) of the Act. Policy 73 is intended to sustain the use rather than allow for peak use, for example to sustain pasture through summer rather than allow for peak growth rates.

Para 3 Policy 66 establishes the surface water allocation regime for the Bay of Plenty, and is necessary to achieve Objective 41. The Q₅ management level for low flow allocation has been set as it represents an acceptable level of risk (the community can expect water restriction one in every five years on fully allocated streams) while allowing sufficient allocatable volume to service reasonable needs. Those communities who can expect water restrictions one in every five years on fully allocated streams will be advised of water restrictions in relation to Method 172. High flow allocation provides for water harvesting or short-term abstractions during high flows (e.g. frost protection, municipal water supply storage), and contributes to the efficient allocation of water while protecting the Instream Minimum Flow Requirement. Method 177 takes into consideration the effect of water abstraction on water quality for consistency with Policy 79 and Objective 45. The methodology to determine Instream Minimum Flow Requirements to sustain ecological values has been established by assessments carried out by Environment Bay of Plenty (refer to Environmental Reports 99/22 and 2000/25²⁸). Method 179 will be used where an Instream Minimum Flow Requirement has not been set in accordance with Method 177. The default Instream Minimum Flow Requirement will generally apply where there is low water abstraction from a catchment and it is not cost-effective to carry out investigations. In the absence of an Instream Minimum Flow Requirement established under Method 177, water allocation will be conservative, and as such it is expected that an Instream Minimum Flow Requirement (under Method 177) will be lower than the default Instream Minimum Flow Requirement (under Method 179).

Over-allocated streams will be identified and addressed on a case by case basis using measures appropriate to the circumstances of the individual catchment using Policy 76 and Method 171. Objective 42 and Policy 65 ensure that stream flows variations are maintained and stream hydrographs are not managed as a 'flat line'. This is necessary to sustain stream biota and natural flushing processes.

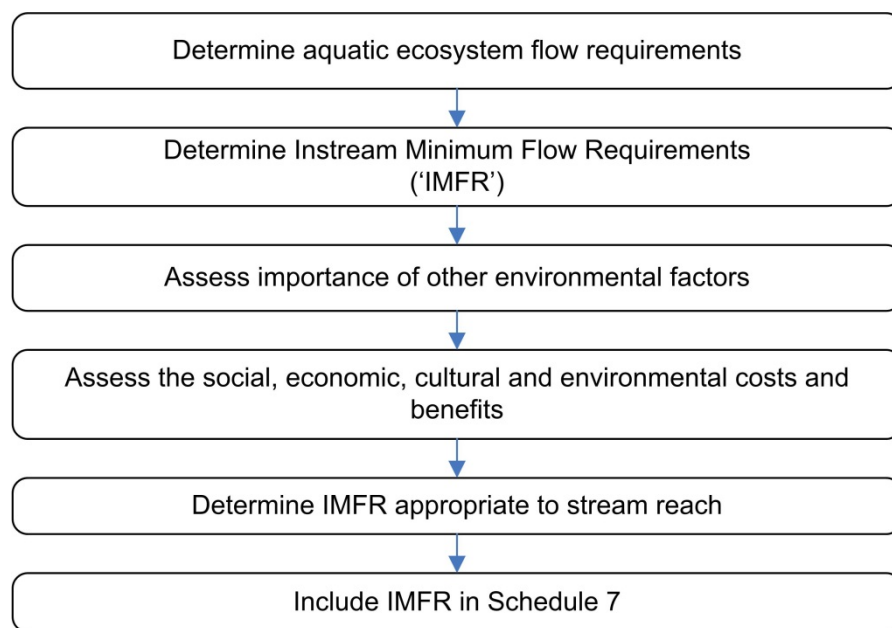
Para 4 Schedule 7 contains a list of Instream Minimum Flow Requirements set using Method 177. Other Instream Minimum Flow Requirements will be included in Schedule 7 using Method 180. The Instream Minimum Flow Requirement low flow allocation is the 'environmental baseline' and Environment Bay of Plenty will allocate water flows above that level for consented surface water abstraction.

Policy 68 provides for situations where new or improved scientific knowledge is available to a resource consent applicant to determine an Instream Minimum Flow Requirement, while considering the matters specified in Policy 68 and taking into account instream values and existing users. In those situations an Instream Minimum Flow Requirement, different from that in Schedule 7 may be applied when assessing the consent application.

Para 5 Method 177 sets the methodology used to determine Instream Minimum Flow Requirements. This follows from Objective 41, which clearly identifies the water quantity management goals for the Bay of Plenty region. Appropriate Instream Minimum Flow Requirements will be determined for each stream or river reach in relation to aquatic habitat requirements for species present in the reach; other values identified during the Instream Minimum Flow Requirement investigation; the water quality classification of the water body; and other social, economic, cultural and environmental matters relevant to the particular stream or river reach. All the matters listed in Method 177 must be assessed to determine an appropriate Instream Minimum Flow Requirement before it is included in Schedule 7 of the regional plan in accordance with Method 180. Figure 6 explains the Instream Minimum Flow Requirement process. Effects on other water users are assessed during the processing of resource consent applications. Method 178 states the habitat protection level that will be provided by an Instream Minimum Flow Requirement for the species present in the stream or river reach.

²⁸ Wilding, T.K., 1999. Instream Flow requirements and Water Takes in the Bay of Plenty – A Discussion Document. Environmental Report 99/22. Environment Bay of Plenty.
Wilding, T.K., 2000. Minimum Flow report for the Waitahanui Stream. Environmental Report 2000/25. Environment Bay of Plenty.

Figure 6 Instream Minimum Flow Requirements Process



- Para 6 Objective 45 will be achieved through the implementation of Policy 80, Method 169(b), and Method 172. The water flow levels in Method 127 determine the points at which Environment Bay of Plenty will take appropriate action to ensure the Instream Minimum Flow Requirement is not breached as a result of abstractions. The type of actions that will be considered are also listed in Method 172.
- Para 7 Policy 71 and Method 166 provide guidance to the community on water allocation. It is not appropriate or economically efficient to specify priority allocation uses in particular catchments as the dominant use may change over the life of the regional plan due to market forces or landowner choice.
- Para 8 Policy 77 identifies that water is scarce in some catchments, particularly those under existing abstraction pressure or where water is naturally in low volume, and consideration of this matter should be made before investment is undertaken in major developments that require large amounts of water.
- Para 9 Policy 73 and Method 168 are consistent with section 7(b) of the Act. Method 168 provides guidance to the community on how the efficiency of water use will be assessed as part of a resource consent application, and lists the matters relevant to different types of water use activities. Efficient water uses are subject to the water allocation regimes established in Policies 66 and 67 (surface water), and Policy 70 (groundwater). Resource users should not expect to be able to abstract the maximum consented water take during drought events when measures in Method 172 are enacted. Efficient use of water will also be achieved through the implementation of Methods 157, 158, 160, 161, 162, 164 and 170.

Rules

Take and Use of Water

Advisory Note

- 1 Section 14(3)(e) of the Act allows the take and use of water for fire-fighting purposes. This applies to surface water, groundwater, geothermal and coastal water.
- 2 Section 14(3)(b) of the Act allows the take and use of freshwater (this excludes geothermal water [greater than 30° Celsius] and coastal water) for:
 - (a) An individual's reasonable domestic needs,
 - (b) The reasonable needs of an individual's animals for drinking water, providing the take or use does not, or is not likely to, have an adverse effect on the environment. Adverse effects include, but are not limited to, effects on other persons, abstraction (either singularly or cumulative takes within the stream) at a rate or volume that cause the water flow to fall below the instream minimum flow requirement (including the default instream minimum flow requirement).

People taking and using water may take a reasonable volume of water for the purposes of (a) and/or (b) above, plus an additional volume as permitted by Rule 38 (groundwater) or Rule 41 (surface water).

Rule 38

Permitted – Take and Use of Groundwater

The take and use of groundwater with a temperature of less than 30° Celsius, where the quantity of water taken does not exceed 35 cubic metres per day per property, is a permitted activity.

Explanation/Intent of Rule

To allow minor takes of groundwater for any purpose that are unlikely to have adverse effects on the environment, and to prevent a proliferation of small takes on a single property that may have significant cumulative effects on a groundwater system. This rule allows the take of water for the supply of the persons for their reasonable domestic needs and the needs of their animals. A greater volume is permitted for groundwater takes than for surface water takes (refer to Rule 41) to encourage people to use groundwater, and reduce abstraction pressure on surface water bodies (particularly small streams).

Plan Change 8 (Groundwater Bores and Flooding Conditions)

Rule 39 was subject to Plan Change 8 (Groundwater Bores and Flooding Conditions). Rule 39 and new Rule 39A now relate to the use, maintenance, decommissioning or reconstruction of a hole, bore, well or water infiltration gallery.

Rule 39

Permitted – Use, Maintenance, Decommissioning or Reconstruction of a Hole, Bore, Well or Water Infiltration Gallery

The use of land to use, maintain, decommission or reconstruct a hole, bore, well or water infiltration gallery is a permitted activity subject to the following conditions:

- (a) the bore design and headworks prevent:
 - (i) the infiltration of contaminants; and
 - (ii) the uncontrolled discharge or leakage of water to the surface.
- (b) the use and maintenance of a bore, well or infiltration gallery is carried out in accordance with Section 1 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).

- (c) the decommissioning of a hole, bore, well or infiltration gallery is carried out in accordance with Section 4 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*);
- (d) the reconstruction of an existing hole, bore, well or infiltration gallery:
 - (i) occurs at the same or similar location, depth, diameter and intercepts the same aquifer interval as the hole, bore, well or infiltration gallery being replaced; and
 - (ii) is of a previously authorised hole, bore, well or infiltration gallery; and
 - (iii) a bore log and structural detail log for the hole, bore, well or water infiltration gallery has been previously registered with the Regional Council; and
 - (iv) is carried out in accordance with Sections 2 and 3 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*)

Advisory Note

- 1 The use, maintenance, decommissioning or reconstruction of a hole, bore, well or water infiltration gallery as a permitted activity does not confer any right to take or use water.
- 2 The owner of the hole, bore, well or water infiltration gallery is responsible for the maintenance and must carry out necessary maintenance and repairs to prevent contaminants from entering groundwater or aquifers. Where the owner of the hole, bore, well or water infiltration gallery cannot be traced, then the owner of the site where the hole, bore, well or water infiltration gallery is located may be responsible for the maintenance.
- 3 For the purpose of this rule, reconstruction is defined as replacement of a previously authorised hole, bore, well or water infiltration gallery that is no longer functional, to the same or similar location, diameter, depth, and intercepting the same aquifer interval as the hole, bore, well or infiltration gallery being replaced. The same or similar location means within a 50 m radius of the existing hole, bore, well or water infiltration gallery.
- 4 Bores, holes, wells or water infiltration galleries for the purpose of monitoring water levels and water sampling are permitted activities subject to the permitted activity conditions of Rule 39.

Explanation/Intent of Rule

To provide for the use, maintenance, decommissioning or reconstruction of holes, bores, wells or water infiltration galleries to prevent contaminants from entering groundwater or aquifers. It is important that holes, bores and wells are maintained and decommissioned to appropriate standards, as outlined in Schedule 14 of this regional plan.

Rule 39A

Restricted Discretionary – Use, Maintenance, Decommissioning or Reconstruction of a Hole, Bore, Well or Water Infiltration Gallery

The use of land to use, maintain, decommission or reconstruct a hole, bore, well or water infiltration gallery, where the activity does not comply with any one or more of conditions of Rule 39, is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) The use and maintenance of the bore, well or infiltration gallery, which shall be in accordance with Section 1 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).
- (b) The method of decommissioning the hole, bore, well or infiltration gallery which shall be in accordance with Section 4 of Schedule 14 (*Standards for the Construction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).

- (c) The method of reconstructing an existing hole, bore, well or infiltration gallery is carried out in accordance with Sections 2 and 3 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).
- (d) Measures to avoid, remedy or mitigate the adverse effects of the activity on groundwater quality.
- (e) The duration of the resource consent.
- (f) Information and monitoring requirements.
- (g) Administration charges under section 36 of the Act.

Explanation/Intent of Rule

To allow The Regional Council to assess the potential adverse effects of holes, bores, wells and infiltration galleries that do not comply with the conditions of Rule 39 in order to ensure that contaminants are prevented from entering groundwater or aquifers.

Plan Change 8 (Groundwater Bores and Flooding Conditions)

Rule 40 was subject to Plan Change 8 (Groundwater Bores and Flooding Conditions). Rule 40 and new Rules 40A and 40B now relate to the drilling of land and the installation or alteration of a hole, bore, well or water infiltration gallery.

Rule 40

Permitted – Drilling

The drilling of land, where the activity does not intercept a water table or aquifer is a permitted activity.

Advisory Note

- 1 The drilling of land as a permitted activity does not confer any right to take or use water.
- 2 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Should any artefacts, koiwi (human remains) or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.
- 3 For the purposes of this rule, drilling is the act or method of boring a cylindrical hole in the earth and excludes the installation of sub-soil drains.

Explanation/Intent of Rule

To provide for minor drilling activities that do not intercept a water table or aquifer and the risk of contaminants entering groundwater or aquifers as a result of these activities is minor.

Rule 40A

Controlled – Drilling

The drilling of land, and associated discharge of drilling fluid, where the activity:

- 1 Does intercept a water table or aquifer; and,
- 2 Is not for the purpose of constructing a bore;

Is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Location and depth of the drilling.
- (b) The method of drilling, which shall be in accordance with Section 2 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).

- (c) Management of the drill hole on completion.
- (d) The proximity of the hole to surface water, potential sources of groundwater contamination, and existing bores.
- (e) Measures to avoid, remedy or mitigate the adverse effects of the activity on groundwater quality and quantity and pressure.
- (f) The duration of the resource consent.
- (g) Information and monitoring requirements.
- (h) Administration charges under section 36 of the Act.
- (i) Decommissioning requirements.

Notification

Applications for controlled activities under Rule 40A do not require the written approval of affected persons, and shall not be publicly notified except where the Regional Council considers special circumstances exist in accordance with Section 94C of the Act.

Advisory Note

- 1 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Should any artefacts, koiwi (human remains) or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.

Explanation/Intent of Rule

To provide for drilling activities, such as geotechnical investigations and mineral exploration, where the bore or hole intercepts a water table or aquifer. It is important that holes are drilled to appropriate standards such as that outlined in Schedule 14 of this regional plan. Such standards will therefore be used in the development of appropriate consent conditions.

Rule 40B

Controlled – Installation or Alteration of a Hole, Bore, Well or Water Infiltration Gallery

The excavation, drilling or other disturbance of land, for the purpose of:

- 1 altering an existing hole, bore, well or water infiltration gallery; or,
- 2 constructing a hole, bore, well or water infiltration gallery; or,
- 3 constructing a hole, bore, well or water infiltration gallery and, taking groundwater for aquifer or pump testing purposes and, discharging drilling or test fluids to land.

Is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Location, depth, diameter or screening interval of the hole, bore, well or water infiltration gallery.
- (b) Method of construction of the hole, bore, well or water infiltration gallery.
- (c) Construction and development of the hole, bore, well or water infiltration gallery which shall be in accordance with Sections 2 and 3 of Schedule 14 (*Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries*).
- (d) Proximity of the hole, bore, well or water infiltration gallery to surface water, potential sources of groundwater contamination, and existing bores.
- (e) Backflow prevention measures.
- (f) Measures to avoid, remedy or mitigate the adverse effects of the activity on groundwater quality.

- (g) Amount of water taken and used for aquifer or pump testing.
- (h) Duration of testing or pumping for aquifer or pump testing.
- (i) Information requirements, including bore logs.
- (j) Review of consent conditions.
- (k) The timing and method of pump testing to meet Council requirements.

Advisory Note

- 1 For the purpose of this rule, a bore is defined as any structure or hole in the ground, which is drilled or constructed for the purpose of accessing, taking or using groundwater, or which results in groundwater being taken or used.
- 2 The granting of consent to install or alter a hole, bore, well or water infiltration gallery does not confer any right to take water. Groundwater takes, other than for aquifer or pump testing purposes, may require a resource consent, as outlined in Rule 43 of this regional plan.
- 3 The owner of the hole, bore, well or water infiltration gallery is responsible for the maintenance and must carry out necessary maintenance and repairs to prevent contaminants from entering groundwater or aquifers. Where the owner of the hole, bore, well or water infiltration gallery cannot be traced, then the owner of the site where the hole, bore, well or water infiltration gallery is located may be responsible for the maintenance.
- 4 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Should any artefacts, koiwi (human remains) or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from the Historic Places Trust before any damage, modification or destruction is undertaken.
- 5 Any alteration to the headworks of any hole, bore, well or water infiltration gallery for the purposes of installing a water meter or water measuring device are exempt from this rule and are permitted under Rule 39.

Explanation/Intent of Rule

To allow the Regional Council to assess the potential adverse effects associated with bore and infiltration gallery construction on the environment, particularly in relation to potential effects on groundwater quality. It is important that all new bores are constructed to appropriate standards such as the NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock. Such standards will therefore be used in the development of appropriate consent conditions.

Rule 41

Permitted – Take and Use of Surface Water

The take and use of water from any surface water body for any purpose, where the water has a temperature of less than 30° Celsius, is a permitted activity subject to the following conditions:

- (a) The take of water shall not be from a wetland.
- (b) The quantity of water taken shall not exceed 15 cubic metres per day per property.
- (c) Where the take is from a river or stream, the rate of abstraction shall not exceed 2.5 litres per second or 10% of the estimated five year low flow (Q₅ 7 day low flow) at the point of abstraction whichever is the lesser.
- (d) Where the take is from a river or stream, the total abstraction (all users) of surface water takes shall not exceed the instream minimum flow requirement (including the default instream minimum flow requirement) for the river or stream at any point.
- (e) The intake structure shall be screened with a mesh aperture size:
 - (i) Not exceeding three (3) millimetres by 30 millimetres in the tidal areas of rivers and streams.
 - (ii) Not exceeding five (5) millimetres by 30 millimetres or five (5) mm diameter holes in any other area that is not in the tidal area of a river or stream.

- (f) The intake velocity through the screen shall not exceed 0.3 metres per second.

Advisory Note

- 1 Potential water abstractors are encouraged to seek the advice of the Regional Council to ensure that there is sufficient flow in a water body to accommodate their water take and comply with condition (d). This is particularly relevant for small streams. The Regional Council will take appropriate action when flows fall below the instream minimum flow requirement.
- 2 Surface water intake structures for the take and use of water under this rule must also be authorised (refer to Rule 52).

Explanation/Intent of Rule

To allow small takes of water from rivers, streams, lakes and other surface water bodies excluding wetlands, that are unlikely to cause adverse environmental effects. Conditions (c) and (d) are to avoid adverse effects on small streams, which are particularly sensitive to abstraction pressure. 15 m³ per day is a reasonable amount for small uses, such as dairy shed wash-down, small glasshouse operations, horticultural spray makeup, or irrigation of gardens (up to approximately 0.5 hectares). Condition (b) is to prevent a proliferation of small takes on a single property, which may have significant cumulative effects on streams and rivers. Intake velocity and screening conditions are to prevent adverse effects on aquatic life. This rule allows the take of water for the supply of the persons for their reasonable domestic needs and the needs of their animals.

Rule 41A

Controlled – Take and Use of Surface Water within Allocation Regime

The take and use of surface water or groundwater that:

- 1 Is not permitted by a rule in this regional plan, and
- 2 Is not prohibited by Rule 49, and
- 3 Complies with the low flow allocation specified in Policy 66 and where an instream minimum flow requirement has been established in Schedule 7 for the stream or river reach, and
- 4 Does not have an adverse effect on downstream water users.

Is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Volume and rate of water take.
- (b) Measures to achieve the efficient use of water.
- (c) Measures to restrict the water take during low flow or drought events.
- (d) Measures to avoid, remedy or mitigate adverse effects on downstream water users.
- (e) Requirements to temporarily stop water takes to enable the Regional Council water flow monitoring.
- (f) Monitoring requirements.

Explanation/Intent of Rule

To provide for the take and use of water where the activity complies with Policy 66(a), and Policy 67. Matters of which the Regional Council retains control are those relevant to effects on water flows and administrative issues. The take and use of surface water that does not meet the conditions of Rule 41A is a discretionary activity under Rule 43.

Rule 42**Permitted – Take of Water and Discharge of Sediment Contaminated Water from the Dewatering of Building and Construction Sites**

The:

- 1 Take of water, and
- 2 Temporary discharge of sediment contaminated water to water or to land where the contaminant may enter water,

for the purposes of dewatering of building and construction sites is a permitted activity subject to compliance with the following conditions:

- (a) The discharge shall not be water taken from contaminated land (refer to Definition of Terms and Advisory Note (3), or a trade or industrial site.
- (b) There shall be no direct discharge of water to water in Lake Rotorua, Rotoiti, Rotoehu, Rotoma, Okataina, Okareka, Tikitapu, Rotokakahi, Tarawera, Okaro, Rotomahana, or Rerewhakaaitu. Discharge to these lakes shall pass through a filter system or a land soakage pond prior to overland flow, and the suspended solids concentration shall comply with condition (g).
- (c) The discharge shall not contain any wastes (including, but not limited to, wastewater or condensates) from a trade or industrial process.
- (d) The discharge shall not cause a conspicuous change in the colour of the receiving waters as measured at a downstream distance of three (3) times the width of the stream or river at the point of discharge.
- (e) Where the discharge is to a receiving water body that is classified as Water Supply, the discharge shall not contain any substance that renders the water unsuitable for treatment (equivalent to coagulation, filtration, disinfection or micro-filtration) for human consumption.
- (f) The discharge shall not contaminate an authorised water take (refer to Advisory Note 4).
- (g) Where the discharge is to a surface water body, the suspended solids concentration of the discharge shall not be greater than 80g/m³.
- (h) Where the discharge is to land soakage where there is overland flow to a surface water body, the suspended solids concentration of the discharge shall not be greater than 150g/m³.
- (i) The volume of discharge from the activity site shall not be greater than 80 litres per second.
- (j) The discharge shall not damage or destroy aquatic ecosystems. This includes, but is not limited to, the smothering of flora and fauna by sedimentation of aquatic habitats.
- (k) The take of water, or the discharge, shall not cause or induce subsidence, erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (l) The discharge shall not cause flooding or ponding on any land or property owned or occupied by another person, unless the written approval of the affected person(s) has been obtained.
- (m) Where the activity prevents the normal use of any existing bore or well in the vicinity due to draw-down, the activity shall be halted immediately.

Advisory Note

- 1 Where the discharge is made to a closed/piped stormwater system, permission for the discharge shall be obtained from the city or district council.
- 2 For the purposes of Rule 42, 'building or construction site' means an activity for the construction or maintenance of a building, structure, or infrastructure.
- 3 In relation to condition (a), contact the Regional Council for more information on the location of contaminated land.

- 4 It is recognised that there are natural geothermal inflows or volcanic soils in the Bay of Plenty region that have high natural background levels of metals above those in New Zealand drinking water standards. These metals are part of the ambient environment, and naturally enter water bodies.

Explanation/Intent of Rule

To allow the dewatering of building and construction sites, where it may be necessary to undertake such activities at short notice. It would not be practicable or efficient to require a resource consent in these circumstances.

Rule 43

Discretionary – Take and Use of Water

The take and use of surface water or groundwater that:

- 1 Is not permitted by a rule in this regional plan, and
- 2 Is not a controlled activity under a rule in this regional plan, and,
- 3 Is not prohibited by Rule 49.

Is a discretionary activity.

In relation to this rule, the Regional Council may review resource consents for the take and use of surface water where the total volume of water authorised to be taken from a stream or river reach is greater than that provided for in the low flow allocation specified in Policy 66 and an Instream Minimum Flow Requirement for the stream or river reach has been specified in Schedule 7.

Explanation/Intent of Rule

To allow the Regional Council to assess the effects of water takes on the environment on a case by case basis according to the objectives, policies and methods in section 5.1 of this regional plan. This rule includes, but is not limited to municipal water supply, irrigation, non-consumptive use by human activities, and other uses.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions as appropriate to the source of the proposed water take:

<i>Objective</i>	4, 5, 6, 8, 36, 39, 41, 42, 43, 45
<i>Policy</i>	5, 11, 14, 15, 17, 18, 19, 20, 21, 66, 69, 70, 71, 72, 73, 79, 80
<i>Method</i>	13, 17, 18, 20, 21, 56, 60, 66, 67, 169, 170, 172, Schedule 7

Other matters relevant to existing water takes:

- (a) Investment in existing infrastructure for the activity.
- (b) Site characteristics.
- (c) Statistical variations on water flow data.
- (d) Adverse effects of the activity on the matters listed in Method 169.
- (e) Adverse effects on existing users of the surface water body.

Other matters relevant to new water takes:

- (a) Site characteristics.
- (b) Statistical variations in water flow data.
- (c) Adverse effects of the activity on the matters listed in Method 169.
- (d) Adverse effects on existing users of the surface water body.

Damming and Diversion of Water

Damming and diversion is considered to be the non-consumptive use of water.

Issues

WQ I12 (Issue 35)

The damming and diversion of water in streams, rivers and lakes can have adverse effects on the environment.

Adverse effects may occur in relation to the following:

- (a) Water flow – the modification of flow regimes and hydrological characteristics can lead to adverse effects on other stream users, aquatic ecosystems, groundwater recharge and levels, water allocation, and natural character. Water flow may fall below the instream minimum flow requirement downstream of dams and diversions. The flood storage capacity of the catchment may be altered. The natural migration of streams and rivers may be artificially constrained. Damming and diversion may reduce stream flow variability, which is necessary for instream biota and the flushing of stream systems. Any adverse effects of the damming of ephemeral watercourses may be offset by beneficial outcomes for erosion control.
- (b) Water quality – the impoundment of water may lead to temperature increases which, coupled with high nutrient levels, can lead to algal/weed growth. Stratification may also occur in impounded water behind dams. There may also be changes to sediment and bed load transport processes.
- (c) Land – dams and diversions may flood land that has productive, ecological, and heritage values.
- (d) Beds and banks of streams and rivers – scour, erosion and bank instability may occur due to increased gradient and water velocity, or saturation of soils.
- (e) Landscape values, Maori cultural values (especially in relation to the loss of natural flow characteristics, and the mixing of water from different water bodies), natural character, recreational use of the water body, and public access to and along the margins of rivers may be diminished. The effects on Maori cultural values should be assessed on a case by case basis with tangata whenua of the activity site.
- (f) Ecological values - fish migration can be prevented, aquatic habitats and wetlands can be damaged or destroyed.

A major area of concern in the Bay of Plenty in the past has been the unauthorised damming and diversion of small streams, resulting from the lack of community awareness about the adverse effects of such activities.

Damming and diversion of water can have benefits for the people and communities of the Bay of Plenty Region, and the wider national community, in providing for their social and economic well-being, such as:

- (a) The generation of electricity.
- (b) Water storage, particularly when used for water harvesting during high flows.
- (c) Creation of wetland habitats.
- (d) Temporary mitigation measures for instream works.
- (e) Management of stormwater runoff to provide for nutrient and sediment treatment.

Objective 42, WQ O12
 Policy 65, WQ P32, WQ P33, WQ P34, WQ P35, WQ P36
 Method IM M3, LM M18, IM M15
 Rule WQ R13 to WQ R21

WQ I13 (Issue 36) **Land use and development activities can dam and divert water, which can:**

- (a) **Change flood flow patterns.**
- (b) **Divert water from natural flowpaths and catchments.**
- (c) **Prevent drainage of floodwaters.**
- (d) **Exacerbate flood effects in other areas.**

Such activities include the diversion of surface runoff by roading, the concentration and diversion of water by land use developments increasing stormwater flows in downstream areas, drain cleaning spoil creating barriers to flood drainage, deposition of material in floodable areas, and stopbanks.

Objective WQ O13
Policy WQ P37
Method WQ M10, WQ M11, WQ M12
Rule WQ 14, WQ R16, WQ R21

Objectives

WQ O12 (Objective 47) Damming and diversion activities avoid, remedy or mitigate adverse effects on the environment, as appropriate to the values, uses and existing environmental quality of the water body and downstream of the activity.

WQ O13 (Objective 48) Land use and development activities avoid, remedy or mitigate adverse effects on the natural flow of water, including flood flows.

Cross-Reference Also refer to Objectives 42 and BW O1 of this regional plan.

Policies

WQ P32 (Policy 81) All new damming and diversion activities, or changes to existing damming and diversion activities, are required to comply with the following environmental standards:

Table WQ 1 Environmental Standards for Damming and Diversion Activities

	Aspect	Environmental Standard
(a)	Water flow	<ul style="list-style-type: none"> • Ensure a sustainable residual flow to maintain the instream minimum flow requirement and provide for existing surface water takes, and for existing assimilative requirements associated with existing discharges of contaminants to water in downstream areas. • Provide for natural flow-variability where appropriate.
(b)	Water quality	<ul style="list-style-type: none"> • Not cause the breach of Water Quality Classification of the stream, river or lake. • Note: – the discharge of contaminants to water is addressed in the Discharges to Water and Land section of this regional plan. Refer to DW P1(b)(vii) with regards to the discharge of sediment resulting from maintenance dredging of dams. Dam owners and operators are not responsible for contaminants discharged within the catchment above the dam.
(c)	Stability of Banks and Beds of Water bodies	<ul style="list-style-type: none"> • Avoid, remedy or mitigate adverse effects on the stability of banks and beds of surface water bodies, including scour, erosion and slumping which can be directly attributed to the existence and operation of the dam. Any erosion events that can be directly attributed to the existence and operation of the dam are to be remedied or mitigated as soon as practicable.

	Aspect	Environmental Standard
(d)	Landscape values, natural character, recreational use, public access to and along the margins of rivers and lakes, and Maori cultural values	<ul style="list-style-type: none"> Refer to BW P3 for requirements for aquatic habitats. Refer to the Kaitiakitanga Section of this regional plan for matters relating to Maori cultural values.
(e)	Wetlands	<ul style="list-style-type: none"> Refer to the Wetlands section of this regional plan for provisions regarding wetlands.

WQ P33 (Policy 82)	Where a resource consent holder applies for a change to an existing damming or diversion activity, only the aspects in WQ P32 relevant to the change in the activity will be considered.
WQ P34 (Policy 83)	Mitigation or remediation is a requirement for all existing dams and diversions, and associated maintenance activities, to address adverse effects on aquatic ecosystems, water quality, water flow, the beds and banks of surface water bodies, and significant heritage values, where appropriate. Actions to mitigate or remedy adverse effects are to be appropriate to the scale of the effect, and have regard to the requirements of WQ P32.
WQ P35 (Policy 84)	To recognise that damming and diversion of water may be necessary to maintain or enhance wetlands.
WQ P36 (Policy 85)	To raise community awareness about the requirement for all damming and diversion activities to be authorised either by resource consent or compliance with permitted activity rules. This is particularly relevant to landowners adjoining small streams.
WQ P37 (Policy 86)	To advise the community on means to avoid or mitigate the effects of flooding caused by the diversion or concentration of water by land use and development activities.
<u>Cross-Reference</u>	Also refer to Policies 65 and BW P4, and the Role of the Bay of Plenty Regional Council section in the Introduction of this regional plan.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

WQ M10 (Method 186)	Encourage developers to use the Regional Council's Hydrological and Hydraulic Guidelines (2001) ²⁹ to assist in the assessment of the effect of land use and development on the diversion or concentration of water.
WQ M11 (Method 187)	Provide advice to the community on measures to avoid or mitigate increased runoff, changed water flowpaths, and flooding in relation to land use and development activities.
<u>Cross-Reference</u>	Also refer to IM M3.

Regulatory Methods

<u>Cross-Reference</u>	Also refer to LM M18, WQ R13-WQ R21.
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Monitoring and Investigation of the Environment

²⁹ Everitt, S., 2001. Hydrological and Hydraulic Guidelines. Environment Bay of Plenty Operations Report 2000/04.

WQ M12 (Method 188) Identify areas where diversion of stormwater and flood water by land use activities is occurring and causing adverse effects on the environment, people and property. Each situation will be assessed and addressed on a case by case basis in relation to the individual circumstances. This will be carried out in conjunction with the city council and district councils, where appropriate.

Cross-Reference Also refer to IM M15.

Rules

Advisory Note

- 1 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Written authority from Heritage New Zealand Pouhere Taonga is required prior to any destruction, damage or modification of an archaeological or registered waahi tapu site or an area where there is reasonable cause to suspect there is an archaeological site. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.
- 2 City and district councils may also control the structural integrity of dam structures under the Building Act 2004.
- 3 It is the intent of this regional plan for all dam and diversion activities in the Bay of Plenty region to comply with the requirements of the regional plan. The damming or diversion of water for which there is an existing resource consent is not subject to the rules in this section. However, such activities will be required to comply with the requirements of this regional plan when the resource consent expires. For activities that are not otherwise covered by a resource consent, the following rules apply:

Table WQ 2 Rules for Damming and Diversion Activities

Activity	Permitted Activity Rule	Activities that do not comply with Permitted Activity Rules
Temporary damming of a land drainage canal or drain	WQ R13	WQ R21
Diversion of stormwater	WQ R14	WQ R21
Damming and diversion by existing flood control structures	WQ R15	WQ R21
Damming of surface runoff	WQ R16	WQ R17, WQ R21
Damming of a river or stream	WQ R18	WQ R19, WQ R21
Lawfully established Hydroelectric Power Schemes in Schedule 11	-	WQ R20

WQ R13 (Rule 44) Permitted – Temporary Damming of Water in a Land Drainage Canal or Drain

The temporary damming of water in a Land Drainage Canal or drain, including the:

- 1 Damming of water, and
- 2 Use, erection, maintenance, reconstruction, placement, alteration or extension of a dam structure, and
- 3 Disturbance of the bed of the Land Drainage Canal associated with the construction of the dam,

where:

- 4 The activity does not extend beyond a period of six (6) months, and
- 5 The dam is not located within an Urban Area or Settlement or within one (1) kilometre upstream of an Urban Area or Settlement.

Is a permitted activity subject to the following conditions:

- (a) The activity shall not change, damage or destroy a wetland.
- (b) Where the activity is in a Land Drainage Canal, the activity shall be carried out by the administrator of the Land Drainage Scheme or its contractor.
- (c) The activity shall not cause flooding or ponding on any land or property owned or occupied by another person that would not naturally carry water during storm or flood events, unless the written approval of the affected person(s) has been obtained.
- (d) Where the dam is located on a watercourse specified in Schedule 3, the dam structure shall provide for fish passage.
- (e) The activity shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (f) The dam does not impound more than 10,000 m³ of water and the lowest point of the dam crest does not exceed 1.5 metres vertical height relative to the land where the dam is sited, as measured from the centre line of the dam structure.
- (g) The dam shall be designed, constructed and maintained to ensure that its structural integrity is not compromised, and incorporates a spillway with a 10% AEP (1 in 10 return) event flood design standard, and erosion protection devices, to safely return surplus water to land or water where the dam is sited.
- (h) The dam shall, at all times, be maintained in a sound condition.
- (i) The dam structure shall be removed when it is no longer required, or after six (6) months, whichever is the sooner.

Explanation/Intent of Rule

Allows for the temporary damming of land drainage canals and drains, including for the purposes of reducing the shrinkage of peat soils. The rule does not allow for the diversion of water. The activity is unlikely to have more than minor adverse environmental effects.

WQ R14 (Rule 44A) Permitted – Diversion of Stormwater (Surface Runoff)

The diversion of stormwater is a permitted activity subject to the following conditions:

- (a) The activity shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control.

Erosion includes:

- (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (iii) Damage to the margins or banks of the surface water body.
- (b) The activity shall not cause flooding or ponding on any land or property owned or occupied by another person, where that land would not naturally carry water during storm or flood events.

Advisory Note

- 1 The discharge of stormwater to surface water, or to land soakage, must comply with the requirements of DW R20 or DW R22, or a resource consent must be obtained.

Explanation/Intent of Rule

To allow for the appropriate management of stormwater where it may be necessary to divert surface runoff from rain events. This may include, but is not limited to, the diversion of 'clean' stormwater away from disturbed land, waste disposal sites, or contaminated land. This rule does not permit the discharge of stormwater which is addressed by DW R20 to DW R23.

WQ R15 (Rule 45) Permitted – Damming and Diversion of Flood Waters by Existing Flood Control Structures

The damming or diversion of surface flood waters by stopbanks and other flood control structures that existed as of 19 February 2002 (except the damming or diversion of water for the purpose of controlling natural lake levels), that are shown in "Regional Water and Land Plan – Maps of Stopbanks and Other Flood Control Structures Permitted by Rule 45" (now WQ R15) and are operated by an organisation exercising its functions under the Soil Conservation and Rivers Control Act 1941, the Local Government Act 1974, the Land Drainage Act 1908, or the Rangitāiki Land Drainage Act 1956, is a permitted activity subject to the following conditions:

- (a) The authorised maintenance or restoration of any stopbank or other flood control structure is limited to its height and profile as at 19 February 2002, except that
- (b) Subject to the written approval of the land owner, the height and profile of a stopbank or other flood control structure that existed on that land owners property as at 19 February 2002 may be altered to achieve a new design standard established in a Floodplain Management Strategy or Asset Management Plan that has been agreed with the community through a local government public consultative process.

Explanation/Intent of Rule

To allow flood control structures and stopbanks that existed as of 19 February 2002 to continue to operate and be restored and maintained for flood hazard mitigation purposes. Stopbanks and other flood control structures protect areas by preventing (i.e. damming) flood waters from flowing into towns and farm land, and diverting floodwaters away from natural flood flow paths back into the main river

channels. This rule does not permit the damming and diversion of water by stopbanks or other flood control structures installed after 19 February 2002, these will require consents. The maps "Regional Water and Land Plan – Maps of Stopbanks and Other Flood Control Structures Permitted by Rule 45" (now WQ R15) are available from the Regional Council.

WQ R16 (Rule 46) Permitted – Damming of Surface Runoff Water

The damming of water, and associated dam structure, that:

- 1 Is in an ephemeral flowpath or gully, or
- 2 Is in an artificial watercourse, or
- 3 Is runoff from the surface of land,

Is a permitted activity, subject to the following conditions:

- (a) The activity shall not change, damage or destroy a wetland.
- (b) The activity shall not cause or increase flooding or ponding on any land or property owned or occupied by another person that would not naturally carry water during storm or flood events, unless the written approval of the affected person(s) has been obtained.
- (c) The activity shall not cause or induce erosion to the bed or banks of any surface water body, or to land, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body;
 - (ii) Scour to the bed of the surface water body;
 - (iii) Damage to the margins or banks of the surface water body.
- (d) The impoundment of water and the dam structure shall comply with either (i) or (ii)
 - (i) The dam shall not impound more than 5,000 m³ of water and the level of the dam spillway invert does not exceed 2.5 metres vertical height relative to the land where the dam is sited as measured from the centre line of the dam structure (refer to Figure WQ 1).
 - (ii) The dam does not impound more than 10,000 m³ of water and the level of the dam spillway invert does not exceed 1.5 metres vertical height relative to the land where the dam is sited as measured from the centre line of the dam structure (refer to Figure WQ 1).
- (e) The structure shall be designed by, or under the guidance of, a chartered professional engineer.
- (f) The dam shall be designed, constructed and maintained to ensure that its structural integrity is not compromised, and incorporates spillway with a 1 in 100 year flood design standard, and erosion protection devices, to safely return surplus water to land where the dam is sited.
- (g) The dam shall, at all times, be maintained in a sound condition.

Explanation/Intent of Rule

To allow the minor damming of clean water that is not in the bed of a permanently flowing stream or river, or a lake or wetland. It includes, but is not limited to:

- stock water dams,
- prevention of peat shrinkage,
- coffer dams,
- detention dams for erosion control,
- dams for the creation of wetland, and
- activities relating to water harvesting

The rule does not apply to earthworks sediment retention ponds, which will be addressed in conjunction with the discharge of sediment contaminated stormwater in a resource consent under DW R8, and does not permit the diversion of water.
Note: that WQ R14 addresses the diversion of stormwater.

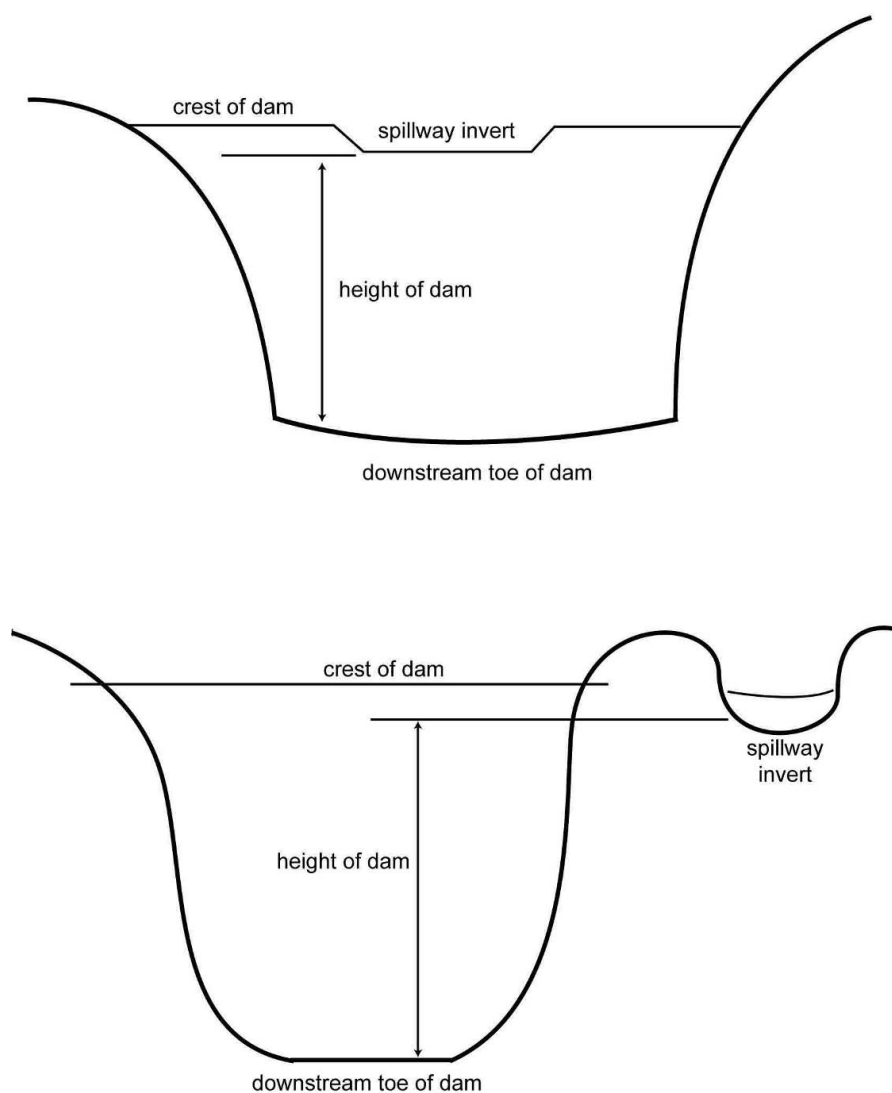


Figure WQ 1 Measurement of Dam Height in WQ R16

WQ R17 (Rule 46A) Restricted Discretionary – Damming of Surface Run-off Water

The damming of water, and associated dam structure, that:

- 1 Is in an ephemeral flowpath or gully, or
- 2 Is in an artificial watercourse, or
- 3 Is runoff from the surface of land,

and is not otherwise permitted by WQ R16 is a restricted discretionary activity, subject to the following condition:

- (a) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate adverse effects on:
 - (i) Water flows.
 - (ii) Land owned or occupied by another person, including flooding and ponding.
 - (iii) The stability of land.
 - (iv) Houses, assets and other activities downstream of the dam, which are at risk of the dam failure.

- (b) The structural integrity, safety issues, construction standards.
- (c) Maintenance of the dam.
- (d) Measures to avoid or mitigate vegetation, soil, slash, construction material or other debris being deposited in a surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (e) Monitoring requirements.

Explanation/intent of Rule

To allow the damming of water that is not in the bed of a permanently flowing stream or river, or a lake or wetland and not otherwise permitted by WQ R16. It includes, but is not limited to:

- stock water dams,
- prevention of peat shrinkage,
- coffer dams,
- detention dams for erosion control,
- dams for the creation of wetland, and
- activities relating to water harvesting.

The rule does not apply to earthworks sediment retention ponds, which will be addressed in conjunction with the discharge of sediment contaminated stormwater in a resource consent under DW R8, and does not permit the diversion of water. WQ R14 addresses the diversion of stormwater.

WQ R18 (Rule 47)

Permitted – Damming of Water in the Bed of a River or Stream

The:

- 1 Damming of water in the bed of a river or stream, and
- 2 Use, erection, maintenance, reconstruction, placement, alteration and extension of a dam structure in the bed of a river or stream, and
- 3 Disturbance of the bed of a river or stream associated with the activity, are permitted activities subject to the following conditions:
 - (a) The dam shall not be located in any stream or river listed in Schedule 1, or that has a water quality classification of Natural State (River).
 - (b) The structure shall not prevent the passage of fish.
 - (c) The mean annual daily flow of the river or stream to be dammed shall not exceed 150 litres per second.
 - (d) The activity shall not cause or induce erosion of the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (e) The activity shall not disturb vegetation in a wetland; or change the water flow of quantity, or water quality in a wetland.
 - (f) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
 - (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
 - (h) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
 - (i) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.

- (j) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (k) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (l) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.
- (m) The damming of water shall not cause water flow downstream of the dam to fall below the instream minimum flow requirement or default Instream Minimum Flow Requirement for the river or stream, or adversely affect any authorised water take.
- (n) The impoundment of water and the dam structure shall not impound more than 5,000 m³ of water, and the lowest point of the dam crest shall not exceed 1.5 metres vertical height relative to the natural bed of the watercourse where the dam is sited, as measured from the centre line of the dam structure.
- (o) The structure shall be designed by, or under the guidance of, a chartered professional engineer
- (p) The dam shall be designed, constructed and maintained to ensure that its structural integrity is not compromised, and incorporates a spillway with a 1 in 100 year flood design standard, and erosion protection devices, to safely return surplus water to the natural bed of the river or stream.
- (q) All dams constructed after 23 March 2004 shall be registered with the Regional Council by forwarding the following information:
 - (i) The location of the dam.
 - (ii) The surface water body on which the dam is located.
 - (iii) The size of the dam.

Advisory Note

- 1 In relation to condition (b), the Regional Council has information to assist resource users to provide fish passage on dam structures.
- 2 In relation to condition (n), the community is advised to contact the Regional Council for information regarding the instream minimum flow requirement or default instream minimum flow requirement for the river or stream.

Explanation/Intent of Rule

To permit the damming of water in small streams and rivers where the adverse environmental effects are likely to be no more than minor. The rule applies to temporary or permanent damming of water, and does not permit the diversion of water. This rule does not apply to instream stormwater treatment ponds.

WQ R19 (Rule 47B) **Restricted Discretionary – Damming of Water in the Bed of a River or Stream**

The:

- 1 Damming of water in the bed of a river or stream, and
- 2 Use, erection, maintenance, reconstruction, placement, alteration and extension of a dam structure in the bed of a river or stream, and
- 3 Disturbance of the bed of a river or stream associated with the activity,

that complies with the following terms and conditions is a restricted discretionary activity:

- (a) The dam shall not be located in any stream or river listed in Schedule 1.
- (b) Measures to avoid, remedy or mitigate adverse effects on:
 - (i) The passage of fish.
 - (ii) Aquatic ecosystems, including indigenous biodiversity.

- (c) The mean annual daily flow of the river or stream to be dammed shall not exceed 300 litres per second.
- (d) The activity shall not damage or destroy a wetland.
- (e) The damming of water shall not cause water flow downstream of the dam to fall below the Instream Minimum Flow Requirement or default Instream Minimum Flow Requirement for the river or stream, or adversely affect any authorised water take.
- (f) The impoundment of water and the dam structure shall comply with either (i) or (ii):
 - (i) The dam does not impound more than 5,000 m³ of water and the lowest point of the dam crest does not exceed 1.8 metres vertical height relative to the natural bed of the watercourse where the dam is sited as measured from the centre line of the dam structure.
 - (ii) The dam does not impound more than 10,000 m³ of water and the lowest point the dam crest does not exceed 1.5 metres vertical height relative to the natural bed of the watercourse where the dam is sited as measured from the centre line of the dam structure.
- (g) The structure shall be designed by, or under the guidance of, a chartered professional engineer.
- (h) The dam shall be designed, constructed and maintained to ensure that its structural integrity is not compromised, and incorporates a spillway with a 1 in 100 year flood design standard, and erosion protection devices, to safely return surplus water to the natural bed of the river or stream.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate adverse effects on water quality, water flows, flooding of land owned or occupied by another person, and the stability of the beds and banks of the water body.
- (b) The structural integrity, and maintenance of the structure.
- (c) The administration charges under section 36 of the Act.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse effects of small dams in streams not listed in Schedule 1 on a case by case basis through the resource consent process, where there is a risk that adverse effects on the environment may be more than minor, particularly in relation to fish passage and aquatic habitats.

WQ R20 (Rule 47C) Controlled – Lawfully Established Hydroelectric Power Schemes in Schedule 11

The lawfully established:

- 1 Discharge of water to water; and
- 2 Discharges of contaminants to water; and
- 3 Take and use of water (including non-consumptive use); and
- 4 Damming and diversion of water; and
- 5 Use of a structure in the bed of a stream or river;

Associated with a hydroelectric power scheme that existed on the date this regional plan becomes operative and is listed in Schedule 11, is a controlled activity.

This rule applies to applications to replace existing resource consents.

The Regional Council reserves its control over the following matters:

- (a) Measures to provide for the passage of fish, both upstream and downstream.
- (b) Upstream and downstream water levels, residual flows and water quality.
- (c) Screening of intake and diversion structures.
- (d) Intake velocities.

- (e) Measures to manage erosion effects (including destabilisation of beds and banks or river).
- (f) Measures to identify and manage the risk of dam failure.
- (g) Stability of the land bordering the dam.
- (h) Measures to manage discharges to water from the use or alteration of the dam structure.
- (i) Measures to avoid, remedy or mitigate any adverse effect on aquatic ecosystems, areas of significant indigenous vegetation, significant habitats of indigenous fauna.
- (j) The quantity and flow rate, outstanding natural features and natural character.
- (k) Measures to avoid, remedy or mitigate any effects on other lawfully established users of the river or stream of water released from the dam.
- (l) Volume and rate of any take or diversion.
- (m) Techniques for ensuring the safe passage of flood water.
- (n) Effects on the relationship of tangata whenua and their culture and traditions with the site and any waahi tapu or other taonga affected by the activity.
- (o) Effects on the ability of tangata whenua to exercise their kaitiaki role in respect of any waahi tapu or other taonga affected by the activity.
- (p) Measures to avoid, remedy or mitigate adverse effects of the operation on downstream sediment transport processes.
- (q) Measures to avoid, remedy or mitigate adverse effects on lawfully established downstream infrastructure.
- (r) The range, or rate of change of levels or flows of water.
- (s) The structural integrity and maintenance of the structure.
- (t) Measures to avoid, remedy or mitigate adverse effects on amenity values (including recreation), and existing public access to and along the margins of rivers and lakes.
- (u) Information and monitoring requirements.
- (v) Administration charges under section 36 of the Act.

Notification

Applications for resource consents under WQ R20 will be publicly notified in accordance with the requirements of section 93(2) of the Act.

Explanation/Intent of Rule

To provide for existing, lawfully existing hydroelectric power schemes that are listed in Schedule 11, and clearly state that all aspects of the activity will be managed within one resource consent. Resource consent applicants may wish to separate ancillary activities (such as the take of water for domestic supply needs, or stormwater discharges) from the main consent for the hydroelectric scheme. Public Notification of resource consents under WQ R20 is in accordance with section 94D(1) of the Act.

WQ R21 (Rule 48) Discretionary – Damming or Diversion of Water

The damming or diversion of water that is:

- 1 Not permitted by a rule in this regional plan, and
- 2 Not restricted discretionary status under a rule in this regional plan, and
- 3 Not prohibited by EC R1,

Is a discretionary activity.

Explanation/Intent of Rule

To allow the Regional Council to assess any damming or diversion activity that will have greater than minor adverse effects on the environment, on a case by case basis through the resource consent process.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions as appropriate to the source of the proposed water take:

Objective *KT O4, KT O5, KT O6, IM O1, 42, WQ O12, BW O1, WL O1, WL O3*
Policy *KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20,*
 IM P1, 65, WQ P32, WQ P34, WQ P35, BW P3, WL P1, WL P2
Method *KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12*

Control of Water Levels in Natural Lakes

This section does not apply to artificial lakes (e.g. Lakes Aniwhenua, Matahina). Water levels in artificial lakes are established through the resource consent process, usually in relation to the damming of water.

Issues

WQ I14 (Issue 40) The artificial control of water levels in natural lakes can have adverse effects on the environment.

Adverse effects can occur in relation to:

- (a) Water quality. This may occur where water with a high nutrient level or geothermally influenced water is discharged from one lake to another. However, greater inputs of nutrients or other contaminants result from land use in a lake catchment, or sub-surface flows of water from one lake to another. The discharge of blue-green algae via a lake control structure is the main water quality concern relating artificial control of lake water levels. Natural lake flushing processes are reduced if water is retained to maintain high water levels. This can have adverse effects on water quality. The mauri of the lake may be adversely affected.
- (b) Water flows and quantity. Instream minimum flows in downstream areas may be breached if water is withheld to increase water levels. Some aquatic species in streams and rivers may require fluctuations in water levels for completion of their life cycles, and could be adversely affected where water flows from lakes are controlled.
- (c) The beds and banks of watercourses. Erosion may occur if the water flow from control structures is not managed appropriately.
- (d) Wetlands on the margins of lakes. Wetlands can be adversely affected or destroyed where lake levels are lowered.
- (e) Riparian vegetation. Riparian vegetation may be inundated by increased water levels.
- (f) Natural beach-forming processes. The loss of lakeside beaches on Lake Rotoiti is due to vegetation being able to grow down to the water line. As the water level is kept stable there is no control of vegetation growth on the lakeshore by natural processes.
- (g) Ecological values. Fish migration may also be impeded where control structures are used. Aquatic habitat characteristics may be modified or destroyed where water levels are changed. Also refer to (d) and (e).
- (h) Heritage values. Significant heritage sites may be inundated by increased water levels. Recreational users of rivers downstream of controlled lakes can be adversely affected when outflows are restricted to maintain lake levels, and river flows fall below that necessary for recreational activities. It may be difficult to establish a lake level control that is appropriate for the whole

community. A level that suits lakeside residents may not account for recreational users in downstream areas, and vice versa.

- (i) Existing development. Urban developments, septic tanks, and roading are flooded when lake water levels are artificially controlled to high levels that do not account for existing development.

Objective WQ O17, WQ O19
Policy WQ P43, WQ P44, WQ P45, WQ P47, WQ P48
Method IM M3, IM M15, WQ M22, WQ M23, WQ M24
Rule WQ R25

WQ I15 (Issue 41) Land use and development, including structures on the beds of lakes, may be flooded or adversely affected where such development is not planned to account for natural lake water level fluctuations.

Urban developments, septic tanks, and roading can be flooded where these occur within the range of natural lake water level fluctuations. The use of structures in beds of lakes may be affected where these are not constructed to take into account natural lake level fluctuations. Jetties may be swamped if not constructed to allow for high lake levels.

There is a lack of recognition of natural fluctuations in lake levels, and a community perception that all lake levels are artificially controlled within defined limits. Lake water levels in the Rotorua lakes naturally fluctuate, displaying high or low water levels relative to rainfall in previous years, or decades. High water levels may only reach a certain level before natural drainage occurs. Some lakes do not have a natural surface outflow, rather they have sub-surface drainage patterns, which recharge other lakes or regional groundwater systems. It is difficult to control lake levels in this situation. There may also be large-scale geologic movements that cause lake water levels to change, or appear to change. The apparent rise in lake water levels at the Hinehopu end of Lake Rotoiti is due to tilting of the lake bed, and subsequent falling of land levels in the Hinehopu area on average 75 millimetres since the 1950's.

Objective WQ O18
Policy WQ P46, WQ P47, BW P4
Method IM M3, WQ M16
Rule WQ R25

Objectives

- WQ O14 (Objective 52) Further artificial control of lake water levels is avoided, except where extremely high water levels are threatening urban development and infrastructure.
- WQ O15 (Objective 53) Land use development on the margins of lakes, and activities on the beds of lakes, are managed to avoid conflict with natural fluctuations of water levels in lakes.
- WQ O16 (Objective 54) Where it is necessary to artificially control lake water levels, the activity will avoid, remedy or mitigate adverse effects on:
- (a) Water quality of the lake and associated surface water bodies.
 - (b) Water quantity and flow variability in surface outflows.
 - (c) Beds and banks of surface outflows.
 - (d) Wetlands on the margins of the lake.
 - (e) Riparian vegetation.
 - (f) Natural beach-forming processes in the lake.
 - (g) Ecological values in the lake and downstream surface water bodies.
 - (h) Recreational, landscape, natural character, and Maori cultural values.
 - (i) Existing urban development and infrastructure.

Policies

- WQ P38 (Policy 92) To discourage the artificial control of water levels in lakes that are not already controlled at the time this regional plan is notified, except in extreme circumstances where unusually high lake water levels are reached and buildings and important infrastructure are threatened by flooding and there are no practicable alternatives.
- WQ P39 (Policy 93) To use the following 2% AEP levels for the Rotorua lakes in relation to WQ P40 and WQ P41:
- | | |
|---------------|----------------------|
| Rotorua | 281.18 m RL Moturiki |
| Rotoiti | 280.46 m RL Moturiki |
| Okareka | 355.20 m RL Moturiki |
| Tarawera | 299.40 m RL Moturiki |
| Rotoma | 319.04 m RL Moturiki |
| Rotoehu | 298.16 m RL Moturiki |
| Rotokakahi | 395.90 m RL Moturiki |
| Rerewhakaaitu | 436.89 m RL Moturiki |
| Okataina | 314.90 m RL Moturiki |
| Tikitapu | 419.50 m RL Moturiki |
- WQ P40 (Policy 94) To consider the natural 2% AEP (50 year return period) maximum and minimum level fluctuations when:
- Establishing new artificial lake level control limits, and
 - Processing resource consent replacements for existing lake level control activities.
- WQ P41 (Policy 95) To advocate the city council and district councils to control land use and development within the area floodable by the 2% AEP level (high water level) of the lakes, as specified in WQ P39, except where higher levels are necessary due to the sensitivity of land use and development in the area to flooding.
- WQ P42 (Policy 96) To raise community awareness of lake water level issues, including:
- The range of natural lake level fluctuations.
 - Long-term geological changes, climatic variations, and other environmental variances that cause lake level fluctuations.
 - The environmental, economic and technical restrictions on controlling lake levels.
 - The effects of the tilting of land at Hinehopu on perceived lake water levels in Lake Rotoiti.
- WQ P43 (Policy 97) Where artificial control of lake water levels is necessary in extreme circumstances, the activity is required to comply with the following:

Table WQ 3 Requirements for the Artificial Control of Lake Water Levels

	Aspect	Requirement
(a)	Water Quality	<ul style="list-style-type: none"> Not cause, or contribute to, the breach of Water Quality Classification of the lake or downstream surface outflows, or the TLI of the lake.
(b)	Water Quantity	<ul style="list-style-type: none"> Allow a sufficient flow in natural surface outflows to maintain the Instream Minimum Flow Requirement and provide for existing surface water takes in downstream areas. Provide for flow variation in natural surface outflows. Avoid, remedy or mitigate adverse effects on natural hydrological processes, including natural beach-forming processes.
(c)	Stability of Banks and Beds of Water bodies	<ul style="list-style-type: none"> Avoid, remedy or mitigate adverse effects on the stability of banks and beds of surface water bodies, including scour and erosion.

	Aspect	Requirement
(d)	Wetlands	<ul style="list-style-type: none"> Adverse effects on wetlands on the margins of lakes are to be avoided where possible. Where it is not possible to avoid adverse effects, the wetlands are to be remediated to their original extent and condition. Also refer to the Wetlands section of this regional plan.
(e)	Ecological values	<ul style="list-style-type: none"> Adverse effects on ecological values of the lake, downstream surface water bodies, and the riparian vegetation of the lake, are to be avoided where possible, or remedied or mitigated where avoidance is not possible.
(f)	Recreational, landscape, natural character	<ul style="list-style-type: none"> Adverse effects on recreational, landscape and natural character values of the lake, downstream surface water bodies, and the margins of the lake, are to be avoided where possible, or remedied or mitigated where avoidance is not possible.
(g)	Maori cultural values	<ul style="list-style-type: none"> Refer to the Kaitiakitanga section of this regional plan.
(h)	Existing urban development and infrastructure	<ul style="list-style-type: none"> Avoid, remedy or mitigate adverse effects on existing urban development and infrastructure except where written approval of affected parties is obtained.

Cross-Reference

Also refer to BW P4

Methods of ImplementationThe Regional Council will:***Education***Cross-Reference Refer to IM M3.***Advocacy***Cross-Reference Refer to NH M4***Regulatory Methods***Cross-Reference Refer to WQ R22.***Matters Relevant to Resource Consent Applications and Processing***

WQ M13 (Method 198) When processing resource consent applications for the artificial control of lake water levels, consider the suitability of the 2% AEP level to establish maximum and minimum levels in relation to:

- The sensitivity of existing land use and development in the area to flooding.
- Adverse effects on aquatic and terrestrial ecosystems, riparian wetlands, natural processes, cultural values, and heritage sites.
- Effects on associated waterways and heritage values.

Monitoring and Investigation of the Environment

WQ M14 (Method 199) Investigate the following, where appropriate:

- The cause of unusually high or low lake levels when these become evident.
- Natural lake outlets and drainage patterns.
- The effects of controlling water levels on aquatic and terrestrial values, riparian wetlands and water quality.

WQ M15 (Method 200)	Consider the possibility of enhancing natural surface outflows, or other methods to control lake levels when a lake has reached an unusually high water level that are above the 2% AEP levels specified in WQ P39, and there are significant adverse effects on infrastructure and buildings from inundation.
<u>Cross-Reference</u>	Also refer to IM M15.

Rules

Artificial Control of Water Levels in Natural Lakes

WQ R22 (Rule 50) Discretionary – Artificial Control of Water Levels in Natural Lakes

The artificial control of water levels in natural lakes, including any associated activities, is a discretionary activity.

Explanation/Intent of Rule

This discretionary rule approach is consistent with the provisions in this section of the regional plan. The intent of the rule is to restrict the artificial control of water levels in natural lakes, and allow the Regional Council to assess the adverse environmental effects of the proposed activity through a resource consent application. Specific conditions can be established to avoid, remedy or mitigate those effects.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	KT O4, KT O5, KT O6, IM O1, WQ O17, WQ O16
<i>Policy</i>	KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, WQ P38, WQ P39, WQ P40, WQ P43
<i>Method</i>	KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, WQ M13

Contents

BW Beds of Water Bodies	1
<i>Activities in the Beds of Water Bodies</i>	<i>1</i>
Issues	1
Objectives	4
Policies	5
Methods of Implementation	8
Rules	12
<i>Stock in Surface Water Bodies</i>	<i>62</i>
Issue	62
Objectives	62
Policies	63
Methods of Implementation	64
Rules	66
<i>Gravel Extraction</i>	<i>73</i>

BW Beds of Water Bodies

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

The provisions in this section of the regional plan apply to lakes, rivers, streams, wetlands and modified watercourses. Artificial watercourses and ephemeral flowpaths (refer to Definition of Terms) are not covered by this section. Provisions in both this section and the Wetlands section of this regional plan apply to activities in wetlands. Gravel extraction is addressed by the Regional River Gravel Management Plan. Structures in the beds of rivers, streams and lakes may also be subject to the provisions of the Building Act 2004.

Activities in the Beds of Water Bodies

Issues

BW I1 (Issue 42)

Activities in, on, under or over the beds of streams, rivers and lakes (including structures, disturbances of the bed, introduction or removal of plants, deposition of substances, reclamation, and drainage) have the potential to cause adverse effects on:

- (a) Beds and banks of streams, rivers and lakes due to erosion. For example, plant removal can lead to erosion of the bed or bank of the water body by weakening the protective function provided by plant roots.
- (b) Water quality due to the release of sediment and other contaminants. Some bed disturbance practices, such as bed fluidisation, have a greater risk of contaminating water with sediment. Drainage can introduce poor quality water with high BOD into the receiving water body.
- (c) Water flow (including flood flows). For example, the dumping of debris into the beds of streams has been evident in Te Puke in the past where shelter belt trimmings have caused blockages, and impeded the flow of flood waters. Other activities can alter natural hydrological processes such as water flows and circulation, with subsequent effects on downstream areas.
- (d) Ecological values and fish passage. However, some types of activities in the beds of streams, rivers and lakes can be planned and implemented to mitigate or remedy effects on aquatic habitat characteristics, with possible long-term benefits.
- (e) Natural character, landscape values, and Maori cultural values.
- (f) Wetlands on the margins of streams, rivers and lakes.
- (g) Existing users of the water body, including water abstractions, and recreational users.
- (h) Legal public access in riparian areas.

These effects are summarised in Table BW 1.

Table BW 1 Potential Adverse Environmental Effects from Activities in, on, under or over the Beds of Streams, Rivers and Lakes

Activity	Potential Adverse Effects							
	Erosion of Beds and Banks	Water quality	Water flow	Ecological values, fish passage, aquatic habitats	Natural character, landscape values and Maori cultural values	Wetlands	Existing users	Public Access
Structures	x	x	x	x	x	x	x	x
Disturbances of the bed	x	x		x	x	x	x	
Introduction of plants ¹		x	x	x	x	x		x
Removal of plants	x	x		x	x	x		x
Deposition of materials		x	x	x	x	x	x	
Reclamation ²			x	x	x	x	x	
Drainage		x	x	x	x	x	x	
'x' indicates a potential adverse environmental effect.								
Notes: 1 The introduction of plants can have beneficial effects for bank stabilisation, soil conservation and erosion control, enhancement of natural character and enhancement of aquatic habitats of native flora and fauna and trout. Adverse effects occur where plants are introduced at inappropriate locations (e.g. in places where the plants obstruct navigation, recreation or flood flows), or are an inappropriate plant species (e.g. invasive exotic species or weed), or are not maintained. Removal of plants may be necessary in some situations, especially with regard to wilding willows. 2 The Rotorua lakes are the main freshwater areas in the region that are adversely affected by reclamation activities, including unauthorised reclamations.								

Objective IM O1, BW O1, BW O2, BW O3, BW O4, BW O7
Policy BW P1, BW P2, BW P3, BW P4, BW P5, BW P7, BW P8, BW P9, BW P10, BW P11, BW P12, BW P13, BW P14
Method IM M3, LM M18, IM M10, IM M15, BW M1, BW M2, BW M3, BW M4, BW M5, BW M6, BW M7, BW M8, BW M9, BW M10, BW M11, BW M12, BW M13, BW M14, BW M16, BW M18, BW M19, BW M20, BW M21, BW M24, BW M25, BW M26, BW M27, BW M28, BW M29, BW M30, BW M31, BW M32
Rule EC R1, BW R1 to BW R36, NH R1, NH R2, NH R3
Schedule 1, 2, 3, 5

BW I2 (Issue 43)

The use of structures in, on or over the beds of lakes may be adversely affected where the structure has not been planned or constructed to account for the natural fluctuation of lake water levels.

The use and occupation of lakeshore areas, including structures in, on or over the beds of lakes, increases the pressure to modify lake beds when lake water levels fluctuate, where such uses have not been planned to account for lake water levels fluctuating. This is particularly evident in lakes Rotoiti and Rotorua. However, sedimentation also affects access to structures (e.g. jetties).

Objective BW O5
 Policy BW P4
 Method BW M6
 Rule BWR1 to BW R36, NH R1, NH R2, NH R3

BW I3 (Issue 44)

Structures in rivers and streams that are inadequately designed constructed or built of inferior materials, can fail during flood events, increasing the amount of debris in downstream areas, and increasing subsequent flood damage.

Objective BW O5
 Policy BW P4
 Method BW M7, BW M15
 Rule BW R1 to BW R36, NH R1, NH R2, NH R3

BW I4 (Issue 45)

Many existing structures on lakes and rivers are derelict, abandoned, may be unauthorised, and may have adverse environmental effects, such as those described in Table BW 1 or are a safety hazard.

Objective BW O6
 Policy BW P6
 Method LM M18, BW M17, BW M18, BW M21, BW M22, BW M23, BW M27
 Rule BW R1 to BW R36, NH R1, NH R2, NH R3

BW I5 (Issue 46)

Activities in the beds of streams and rivers, including damming and diversion, can prevent the passage and migration of indigenous fish species and trout.

The following structures and activities can have adverse effects on fish passage and migration:

- (a) Dams and weirs.
- (b) Flood management structures, such as flood gates.
- (c) Trash and debris racks.
- (d) Groynes.
- (e) Bank protection works.
- (f) Diversion of water.
- (g) Culverts.
- (h) Fords.
- (i) Dredging of the bed of a stream or river.
- (j) Debris in the bed of a stream or river.
- (k) Bridge and culvert aprons.
- (l) Intake and outfall structures.
- (m) Any structure in a stream or river that is not designed and installed to provide for fish passage.

Many indigenous freshwater fish species require continuous access to and from the sea to complete their life cycles. It is important to provide for fish passage, even to and within small upper catchment streams, as these provide habitat for indigenous fish species and juvenile trout. Adult trout also need access along streams and rivers for spawning. Although juvenile fish of some native species (e.g. koaro, kokopu species and longfinned eel) have considerable climbing ability, which enables them to reach inland areas, passage for these species may still be restricted by inappropriate structures such as overhanging culverts and weirs. Access is also important for

species living close to the coast (e.g. inanga, smelt, torrent fish and giant bully) as they have limited swimming or climbing abilities and may be prevented from accessing wetlands and lowland streams even by small obstacles. Barriers to fish migration prevent recruitment, limit the choice of habitat for those fish that are present, reduce the opportunity for fish to move during drought or flood events, and for some species may prevent fish from completing important life cycle functions. All these factors can lead to a decline in fish numbers and aquatic indigenous biodiversity.

Objective BW O1, BW O3

Policy BW P1, BW P3

Method BW M15, BW M16, BW M18, BW M21, BW M26, BW M27, BW M28

Rule BW R1 to BW R36, NH R1, NH R2, NH R3

Objectives

- BW O1 (Objective 55) Aquatic ecosystems, aquatic habitats of indigenous species, spawning areas and migratory pathways of fish, and significant aquatic vegetation are maintained and enhanced.
- BW O2 (Objective 56) Trout habitats are protected.
- BW O3 (Objective 57) Adverse effects on fish passage and migration along rivers and streams is avoided, remedied or mitigated.
- BW O4 (Objective 58) Activities in, on, under or over the beds of streams, rivers and lakes:
- (a) Do not significantly impede the flow of flood waters, except where the activity is necessary for flood control purposes.
 - (b) Provide for water flow and volume requirements in downstream areas, including authorised water abstractions and non-consumptive uses.
 - (c) Avoid, remedy or mitigate adverse effects on natural hydrological processes of the stream, river or lake, or downstream areas.
 - (d) Do not lead to accelerated erosion of the beds and banks of streams, rivers and lakes.
 - (e) Maintain existing public access to and along the margins of rivers and lakes, where appropriate.
 - (f) Avoid or mitigate the contamination of water by sediment.
 - (g) Avoid adverse effects on areas of significant natural character.
 - (h) Avoid, remedy or mitigate adverse effects on ecological values.
- BW O5 (Objective 59) Structures in, on, under or over the beds of streams, rivers and lakes are:
- (a) Designed to commonly accepted design standards (including flood design standards) in relation to the use and location of the structure.
 - (b) Constructed to a standard to withstand flood events.
 - (c) Designed and used to account for natural lake level fluctuations.
- BW O6 (Objective 60) Derelict, abandoned and unauthorised structures in, on, under or over the beds of streams, rivers and lakes that are causing adverse environmental effects are removed.
- BW O7 (Objective 61) Avoid introduction of plants into the beds of streams, rivers and lakes, except where indigenous species are planted to enhance the stream, river or lakes; or the planting is necessary for river control works.

Cross Reference

Also refer to IM O1 of this regional plan

Policies

BW P1 (Policy 98)

To require activities in the beds of rivers, streams and lakes to be undertaken in a comprehensive and integrated manner that recognises and provides for the water quality, water quantity (including flood hazards), soil conservation, aquatic ecosystem issues in the water body, and areas of significant natural character.

BW P2 (Policy 99)

All new activities in the beds of streams, rivers and lakes, reconstruction of existing structures, re-planting of plants, and existing activities upon renewal of consents, are required to comply with the following:

Table BW 2 Requirements for Activities in, on, under or over the Beds of Streams, Rivers and Lakes

	Factor	Requirement
(a)	Stability of Banks and Beds of Water Bodies	<ul style="list-style-type: none"> Avoid, remedy or mitigate adverse effects on the stability of banks and beds of surface water bodies, including scour and erosion that can be directly attributed to the existence and operation of the activity. Any erosion or scour events that can be directly attributed to the existence or operation of the activity is remedied as soon as practicable.
(b)	Water Quality	<ul style="list-style-type: none"> Avoid or mitigate the release of sediment to water from activities in the bed of streams, rivers and lakes. Require practices that minimise the release of sediment to water. Not cause the breach of Water Quality Classification of the stream, river or lake. <p>Note:</p> <ol style="list-style-type: none"> The discharge of contaminants other than sediment to water (including discharges from activities in the beds of streams, rivers and lakes) is addressed in the Discharges to Water and Land Section of this regional plan. Refer to DW P1(b)(vii) of this regional plan for the discharge of sediment resulting from maintenance dredging of dams. Dam owners and operators are not responsible for contaminants discharged within the catchment above the dam.
(c)	Water and Flood Flows	<ul style="list-style-type: none"> Avoid impeding the flow of flood waters, except where the activity is specifically for flood or water level control purposes, or is a dam. Avoid, remedy or mitigate adverse effects on natural hydrological processes, instream minimum flow requirements, and non-consumptive uses.
(d)	Natural Character, Landscape Values, Maori Cultural Values	<ul style="list-style-type: none"> Avoid adverse effects on areas of significant natural character. Refer to Policies KT P18, KT P19, KT P20 and BW P3 of this regional plan. Markers or high visibility materials required for navigational safety are excluded from requirements relating to natural character.
(e)	Wetlands	<ul style="list-style-type: none"> Refer to the Wetlands section of this regional plan.
(f)	Existing Uses	<ul style="list-style-type: none"> Avoid, remedy or mitigate adverse effects on existing users of the water body, including water abstractions, except where written approval of affected parties is obtained.
(g)	Public Access	<ul style="list-style-type: none"> When assessing the adverse effects of proposed activities, consider the effects on authorised public access to and along the margins of rivers, streams and lakes.

BW P3 (Policy 100)

To avoid, remedy or mitigate adverse effects on aquatic ecosystems, the aquatic habitats of indigenous fauna, important trout habitats, and fish migration. This is to be achieved by designing, planning, constructing or undertaking, and maintaining activities to:

- Avoid undertaking significant instream bed disturbance activities at spawning sites during relevant spawning periods of fish species present in the water body.

- (b) Avoid, remedy or mitigate the adverse effects of instream works on:
 - (i) The aquatic habitats of indigenous aquatic fauna and flora, including spawning sites.
 - (ii) The important aquatic habitats of trout, including spawning sites.
- (c) Provide for fish passage for migration, recruitment, and habitat range in areas where there are no natural barriers to fish passage. Where fish passage is necessary it is not to be impeded by new structures, or beyond the duration of any instream works. Manual transference will be considered to be the provision of fish passage for existing structures.
- (d) Remediate aquatic habitat characteristics at the activity site that have been degraded by the activity, except where restoration or enhancement of aquatic habitats at other locations is more appropriate.

BW P4 (Policy 101)

New structures in, on, under or over the beds of rivers, streams and lakes, and the reconstruction of existing structures, are to be designed, constructed and maintained to comply with the requirements of BW P2 and BW P3, and the following environmental standards:

- (a) Designed to flood design standards that are appropriate to the Bay of Plenty region (refer to BW M6), and to the site of the structure. This does not apply to flood control structures (refer to WQ R15 and BW R1).
- (b) Designed, constructed and maintained to appropriate standards to:
 - (i) Withstand flood events.
 - (ii) Ensure the integrity of the structure is maintained for its specified use.
- (c) Located, designed, constructed and used a manner that accounts for the effect of natural lake water level fluctuations.

For the purpose of this regional plan, gabion baskets and rock riprap are considered to be structures.

BW P5 (Policy 102)

To provide for the use and maintenance of any lawfully existing structure in, on, under or over the bed of a stream, river or lake, except where such structures are causing adverse effects on the environment that cannot be avoided, remedied or mitigated.

BW P6 (Policy 103)

To require the owner of any derelict, abandoned or unauthorised structure in, on, over or under the bed of a surface water body which is causing adverse environmental effects, to remove the structure unless:

- (a) Its removal will create greater adverse effects on the environment than its continued existence; or
- (b) It is a registered archaeological or historic structure; or
- (c) A resource consent application is being processed for the structure.

BW P7 (Policy 104)

To prevent, by actively discouraging:

- (a) The unauthorised deposition of substances, including the dumping of debris into the bed of a stream, river or lake.
- (b) The release of cuttings from willow management activities into the bed of a stream, river or lake.

- BW P8 (Policy 105) To encourage and support community projects to remove debris that has been dumped in streams, rivers and lakes in the region.
- BW P9 (Policy 106) To prefer the temporary deposition and storage of substances on the dry part of the bed of a stream, river or lake, where it is necessary to undertake such an activity.
- BW P10 (Policy 107) Reclamation of the bed of a river, stream or lake is to comply with WQ P34 and the following standards:
- (a) Reclamation activities on the beds of lakes Tarawera, Rotoma, Okataina, Okareka, Rotokakahi, Rotomahana and Tikitapu, are limited to the protection of existing structures (including infrastructure and state highways), waahi tapu and cultural sites, and heritage sites under threat from severe erosion.
 - (b) Reclamations are to use material that will not lead to the discharge of contaminants to water, excluding minor sediment.
- BW P11 (Policy 108) The introduction of plants into the beds of rivers, streams and lakes is to comply with BW P3, and the following standards:
- (a) Plants introduced into the bed of a surface water body are to be of a species and at a location suitable to maintain or enhance the values and uses of the water body.
 - (b) Aquatic plant pests are not to be introduced into the beds of streams, rivers and lakes.
- Note:** Plants can only be introduced to the bed of a surface water body, or land where the permission of the landowner or administering body is obtained, and the activity complies with BW R34 (permitted) or a resource consent is obtained.
- BW P12 (Policy 109) To promote, and where necessary facilitate, the removal of inappropriate species of plants, or plants in inappropriate locations, including wilding willows from the beds of surface water bodies, where such plants are causing adverse effects on water flows, water quality, or the stability of the beds and banks of surface water bodies.
- BW P13 (Policy 110) To encourage and promote the use of appropriate indigenous plant species for plantings in the beds of rivers and lakes, including the use of eco-sourced stock where and when available.
- BW P14 (Policy 111) To maintain legal public access to and along the margins of rivers and lakes when assessing the effects of activities in the beds of streams, rivers and lakes, or land disturbance activities, through the resource consent process, except where restriction is necessary to:
- (a) Prevent the occurrence or exacerbation of erosion of river or lake banks or beds.
 - (b) Preserve the natural character of streams, rivers, lakes and wetlands.
 - (c) Protect private property rights.
 - (d) Safeguard ecological or intrinsic attributes of streams, rivers and lakes.
 - (e) Preserve sites of natural and cultural heritage.
 - (f) Avoid conflict between competing uses.
 - (g) Protect cultural values of tangata whenua.

- (h) Provide for other exceptional circumstances that are sufficient to justify the restriction, notwithstanding the national importance of maintaining access.
- (i) Protect the primary soil conservation functions of riparian plantings.
- (j) Protect the integrity of river and flood control works.
- (k) Protect public health and safety.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

BW M1 (Method 201)	Promote the requirements of the Bay of Plenty Pest Management Strategy 2003-2008 ³⁰ , with regard to the management of plants on the beds of surface water bodies.
BW M2 (Method 202)	Encourage local communities to enhance aquatic habitats, aquatic ecosystems and natural character through the planting of suitable native species on the margins and in the beds of surface water bodies, where the permission of the landowner or administering bodies is obtained. The use of eco-sourced vegetation stock will be encouraged where and when it is available.
BW M3 (Method 203)	Advise the community about appropriate indigenous plant species for plantings in the beds of surface water body.
BW M4 (Method 204)	Encourage, advise and assist, where appropriate, landowners to effectively and permanently remove wilding willows and other inappropriate plants from the beds of surface water bodies, especially where these are causing erosion and blockages, or are adversely affecting ecological values.
BW M5 (Method 205)	Require operators who manage and maintain plants in, on or under the bed of a surface water body to adopt best management practices for the removal of plants.
BW M6 (Method 206)	Encourage the use of Regional Council's Hydrological and Hydraulic Guidelines (2001) ³¹ to assist the design of structures in the beds of rivers and lakes to appropriate flood design levels for the flood hazards of the site, and the use of the structure.
BW M7 (Method 207)	Provide information to the community about the relevant design standards for structures in, on, under or over the beds of rivers and lakes, including standards to withstand flood events.
BW M8 (Method 208)	Clarify the responsibilities of the Regional Council, city and district councils, and landowners for the management and maintenance of streams, and provide this information to the community.
BW M9 (Method 209)	Encourage the use of construction and maintenance practices that avoid or mitigate the release of sediment to water. This includes, but is not limited to, pipe thrusting.

³⁰ Environment Bay of Plenty, 2003. Bay of Plenty Regional Pest Management Strategy 2003-2008. Environment Bay of Plenty, New Zealand.

³¹ Everitt, S., 2001. Hydrological and Hydraulic Guidelines. Environment Bay of Plenty Operations Report 2000/04.

BW M10 (Method 210) Raise community awareness of:

- (a) The adverse effects of unauthorised and/or inappropriate activities and works on the margins of lakes and rivers on water quality, aquatic habitats, and soil erosion.
- (b) Legal requirements allowing for public access along the margins of rivers and lakes where there is publicly owned land and access strips.
- (c) The exacerbation of flood hazards that can result from the inappropriate deposition of substances, including plant debris, on the beds of surface water bodies and adjacent land.
- (d) The provisions controlling reclamation and draining of the beds of rivers and lakes to ensure unauthorised activities do not occur. This will be targeted in the Rotorua lakes area.

This may be carried out in conjunction with other organisations or resource management agencies.

Working with Other Resource Management Agencies and the Community

BW M11 (Method 211) In conjunction with the Department of Conservation, identify suitable areas to enhance the spawning sites of indigenous fish species.

BW M12 (Method 212) Develop guidelines, with the community in a consultative process, on the following:

- (a) Practicable and effective fish passage devices and designs.
- (b) Suitable methods to maintain, enhance or reinstate aquatic habitats.

BW M13 (Method 213) Facilitate a process with relevant organisations and individuals to assess and implement the most appropriate methods for the protection and enhancement of wetlands, river and lake habitats, and their margins.

BW M14 (Method 214) In conjunction with relevant organisations and individuals, research the importance of the natural values of wetlands, lake and riverline habitats and riparian margins in sustaining natural habitats and communities.

BW M15 (Method 215) In conjunction with city and district councils, roading authorities and relevant owners of existing structures, develop a long-term strategic approach to:

- (a) Upgrading roading structures in the beds of streams and rivers where such structures are affected by water flow changes resulting from land use changes in the catchment.
- (b) Identifying existing structures that do not comply with BW R1, and appropriate management solutions, including a timetable to upgrade such structures where necessary.

BW M16 (Method 216) In conjunction with resource management agencies, iwi, landowners and other interested parties, identify the extent and scale of aquatic habitat degradation in the region, and appropriate means to remediate aquatic habitats. Remediation will be determined on a site by site basis, including an assessment of the benefits and costs of such action.

Works and Services Provided by Regional Council

BW M17 (Method 217) Remove derelict, abandoned or unauthorised structures that are causing significant adverse effects on the environment and there is no identified owner of the structure.

BW M18 (Method 218) Undertake stream maintenance and restoration works in conjunction with landowners where:

- (a) There is significant bank erosion.
- (b) There is the opportunity to enhance aquatic habitats.
- (c) Substantial blockages or excessive plant growth (including wilding willows) are causing erosion or flood hazards.
- (d) There is a barrier to fish passage.

Stream maintenance and restoration works include, but are not limited to, clearing of debris and blockages. Such works will be undertaken in relation to the magnitude of adverse effects evident and cost effectiveness.

BW M19 (Method 219) Encourage the integration and co-ordination of the Regional Council animal and plant pest control, soil conservation, and river works operations to improve the environmental quality of streams.

BW M20 (Method 220) Initiate an assessment of hazards to navigation to:

- (a) Determine how hazards to navigation are defined.
- (b) Identify water bodies that are considered to be navigable.
- (c) Assess various mechanisms to manage hazards to navigation.

Where appropriate the results of the assessment will be included in this regional plan via a plan change process.

Regulatory Methods

Cross-reference

Also refer to LM M18, BW R1 to BW R36, NH R1, NH R2, NH R3

Matters Relevant to Resource Consent Applications and Processing

BW M21 (Method 221) Require the removal of derelict, abandoned or unauthorised structures where they are causing a significant adverse effect on the environment, which is deemed to include any of the following:

- (a) Causing erosion or instability of the beds and banks of surface water bodies.
- (b) Degrading water quality as a result of discharges from the structure, including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints.
- (c) Obstructing the free flow of water, resulting in blockage, flooding or erosion.
- (d) Compromising the existing uses of the water body, including recreational use.
- (e) Compromising the function of any authorised structures.
- (f) Obstructing navigation.
- (g) Leading to the accumulation of debris.

- (h) Preventing or impeding the passage of fish.
- (i) Adverse effects on the aquatic ecological values of the water body.

This does not apply to structures that are registered archaeological or historic structures, or where a resource consent application is being processed for the structure.

- BW M22 (Method 222) Require the removal of derelict, abandoned or unauthorised structures to be carried out at the owner's expense.
- BW M23 (Method 223) Initiate suitable legal action or works to have a derelict, abandoned, or unauthorised structure removed where no action is forthcoming by the owner.
- BW M24 (Method 224) Require reclamation activities to use material that will not lead to the discharge of contaminants to water, excluding minor discharges of sediment.
- BW M25 (Method 225) Require willow plantings in the beds of surface water bodies to be maintained in a manner that avoids adverse effects on water flows, recreational use, the banks and beds of surface water bodies, and ecological values. Cuttings and trimmings from willow maintenance activities are not to be released into the surface water body.
- BW M26 (Method 226) Address the adverse effects of existing structures in, on, over or under the beds of surface water bodies through the following process:
- (a) Identify existing structures that are causing significant adverse effects on the environment using BW M27.
 - (b) Require the owner of any structure that is causing significant adverse effects on the environment to either:
 - (i) Apply for a resource consent, which will include measures to mitigate or remedy the adverse effects of the structure, or
 - (ii) Remove or replace the structure. Where it is necessary to replace the structure, the new structure will comply with the requirements of this regional plan.
 - (c) For existing road and rail bridges where the original authorisation is unclear, classify the ongoing use and maintenance as permitted activities, but require a resource consent for any reconstruction, alteration, or extension of the structure which may affect soil conservation, water quality, water quantity, aquatic ecosystems, or which is likely to result in a natural hazard. The consent will address measures to avoid, mitigate or remedy adverse effects on the environment.

Monitoring and Investigation of the Environment

- BW M27 (Method 227) In conjunction with city and district councils, initiate an ongoing programme to identify all existing structures in, on, over or under the beds of surface water bodies through new and existing surveys, and determine if they are having significant adverse effects on the environment.

The programme will prioritise the investigation of structures in areas where fish species would naturally have easy access to (including streams close to the sea, streams with high water quality, or where fish passage would normally be expected to occur), where there are flooding issues, significant ecological or other heritage values, or where erosion is a problem.

- BW M28 (Method 228) Investigate the effects on fish passage of existing flood control and drainage structures, including floodgates and weirs.

- BW M29 (Method 229) Establish a forum to investigate alternatives to the use of willow species for soil erosion and river control purposes with the Department of Conservation and other interested parties.
- BW M30 (Method 230) Identify areas where dumping of debris, including shelter belt trimmings and other plant matter, is occurring and target community programmes in these areas.
- BW M31 (Method 231) In conjunction with the city council and district councils, map the extent of the urban area restriction in BW R12 to BW R20, and update the mapped areas every three years. These maps will be provided to the community on request.
- BW M32 (Method 232) In conjunction with the community, develop criteria to identify the spawning sites of indigenous species and trout.

Cross-Reference

Also refer to IM M15.

Rules

Activities in the Beds of Rivers, Streams, and Lakes

Advisory Note

- 1 BW R1 to BW R36 control activities in, on, under or over the beds of rivers, streams (including modified watercourses) and lakes. The rules do not control activities in artificial watercourses (including farm drains and roadside drains) or ephemeral flowpaths (refer to Definition of Terms). Refer to the Wetlands Section of this regional plan for rules addressing the modification of wetlands, including wetlands in the beds of rivers, streams and lakes.
- 2 The extraction of river gravel is addressed in the Regional River Gravel Management Plan.
- 3 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Written authority from Heritage New Zealand Pouhere Taonga is required prior to any destruction, damage or modification of an archaeological or registered waahi tapu site or an area where there is reasonable cause to suspect there is an archaeological site. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.
- 4 For any activities on watercourses within a land drainage scheme, the approval of the administrator of that land drainage scheme must also be gained with regard to the administrator's functions under the Land Drainage Act 1908.
- 5 For any activities on a section of a river within a River Scheme (as defined in Schedule 5), the approval of the Regional Council is also required with regard to their functions under the Soil Conservation and Rivers Control Act 1941, and the Regional Council Floodway and Drainage Bylaw 2002.

- 6 Activities in, on, under or over the bed of a stream, river, lake or modified watercourse, for which there is an existing resource consent are not subject to the rules BW R1 to BW R36, NH R1, NH R2, NH R3. However, such activities will be required to comply with the requirements of this regional plan when the resource consent expires. For activities that are not otherwise covered by a resource consent, the following rules apply:

Table BW 3 Rules for Structure and Bed Disturbance Activities

Activity	Permitted Activity Rule	Activities that do not comply with Permitted Activity Rules
Existing structures	BW R1, BW R2, BW R3, BW R4	BW R36
New structures	BW R5, BW R6, BW R7, BW R8, BW R9, BW R11, BW R12, BW R15, BW R17, BW R20, BW R22, BW R23, BW R24, BW R26, BW R27	BW R10, BW R13, BW R14, BW R16, BW R18, BW R19, BW R21, BW R25, BW R28, BW R36
Removal of a structure	BW R29	BW R36
Disturbance of the bed of a surface water body (excluding disturbances associated with construction or maintenance of a structure)	BW R30, BW R31, BW R32	BW R36
Existing Reclamations	BW R30	BW R36
New Reclamation	There are no permitted rules for new reclamations	BW R36
Introduction of plants	BW R33	BW R36
Removal of plants	BW R34	BW R36
Maintenance of river schemes, land drainage canals and specified streams and rivers	NH R1, NH R2, NH R3	BW R36

- 7 Structures in the beds of streams, rivers and lakes are also subject to the requirements of the Building Act 2004 and relevant building standards or building codes. A building consent from the relevant district or city council may also be required.
- 8 The piping of a stream is not necessarily a diversion under section 14 of the Act (and the rules for damming and diversion in the Water Quantity section of this regional plan), and has generally been addressed as a pipe structure activity subject to section 13 of the Act and the rules for Structures in this section of the regional plan.
- 9 Permission from the owner of the bed of the river, stream or lake is also required for any activity in such areas.
- 10 With respect to structures in flowing water bodies, liaison with the Department of Conservation regarding the requirements of the Freshwater Fish Regulation 1993 should be undertaken when the structure is likely to have adverse effects on fish passage.
- 11 Parts of structures that are located on land not in the bed of a river, stream or lake may be controlled by city and district councils. However, if those parts of the structure will dam or divert flood waters, the structure will also require consent from the Regional Council under WQ R21.
- 12 Earthworks on land not in the bed of a river, stream or lake, but associated with structures in the bed of a river, stream or lake, are addressed in the Land Management section of this regional plan.

- 13 In relation to requirements for structures to be designed to specified flood flow levels, the Regional Council has prepared Hydrological and Hydraulic Guidelines (2001) to assist the community to design and construct structures to relevant standards.
- 14 For clarification, WQ R20 provides for lawfully existing hydroelectric power schemes listed in Schedule 11 that existed on the date this regional plan becomes operative. Where activities are provided for by WQ R20, the rules in this section of this regional plan do not apply.
- 15 Rules BW R1 to BW R4, BW R12 to BW R22, BW R24 to BW R25, BW R27 to BW R29 and BW R36, do not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Structures

BW R1 (Rule 51)

Permitted – Use of Specified Existing Lawfully Authorised Structures

The use of any existing lawfully authorised structure in, on, under or over the bed of a river, stream (including modified watercourse), where the structure existed on the date on which this rule becomes operative, and

- 1 The structure is a culvert, single span bridge, or ford that complied with section 10.5.6 of the Bay of Plenty Regional Land Management Plan and was constructed before 1 December 2008; or
- 2 The structure is an existing flood control or water level structure, except any structure associated with the control of natural lake levels, within a River Scheme Maintenance Area or a Drainage District Maintenance Area; or
- 3 The structure is an existing structure supporting a public road, state highway, or railway line;

Is a permitted activity subject to the following conditions:

- (a) The structure shall not cause or induce erosion of the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (b) The Regional Council has not identified, in accordance with BW M26 and BW M27, that the structure prevents the passage of migrating fish.
- (c) The structure shall at all times be maintained in a structurally sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (d) The structure shall not;
 - (i) Cause flooding or ponding on any land or property owned or occupied by another person whose land would not naturally carry water during storm of flood events.
 - (ii) Be identified by the Regional Council in accordance with BW M15 as a structure causing more than minor adverse flooding effects on land, property owned or occupied by another person, buildings or access ways.

Advisory Note

- 1 This rule does not cover any structures in the Rotorua Lakes.
- 2 BW M15 is to develop a long-term strategic approach to identifying and upgrading structures that are causing flooding problems. A list of problem structures will be developed and updated over time as necessary.
- 3 BW M26 and BW M27 seek to develop a long-term strategic approach, in consultation with relevant transport agencies, city council or district councils, to identifying and upgrading existing structures that are causing adverse effects on fish passage. A list of priority structures, based on ecological value to that catchment, will be developed and reviewed over time, as necessary. If more than one structure owned or maintained by the New Zealand Transport Agency ('NZTA') is identified, the replacement of structures will be prioritised based on the ecological benefits gained by their replacement.
- 4 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow the use of existing lawfully authorised structures that were permitted under section 10.5.6 of the Bay of Plenty Regional Land Management Plan, or are specified flood control structures, rail bridges, and bridges for public roads or state highways. It would not be efficient to require ongoing consents for structures that have an expected life-time of greater than 35 years. Reconstruction of such structures is to comply with the provisions of this regional plan.

BW R2 (Rule 51A)**Permitted - Maintenance of Structures In, On, Under or Over the Bed of a Stream, River or Lake**

The maintenance of any structure in, on, under or over the bed of a river, stream (including modified watercourse) or lake, is a permitted activity, subject to the following conditions:

- (a) No maintenance works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (b) The disturbance of the water body and release of sediment resulting from the activity shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per maintenance activity in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per maintenance activity in any water body not otherwise covered by (i).
- (c) There shall be no discharges of contaminants to water from maintenance activities.
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.

- (f) Where maintenance works are undertaken in the bed of the river, stream or lake, all practicable steps shall be taken to avoid, remedy or mitigate the release of sediment from the activity, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (h) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (i) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (m) The activity shall not alter the natural course of the river.
- (n) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried onto a water body.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for the ongoing maintenance of structures in, on, under or over the bed of a stream, river or lake, in order to comply with the general requirement to maintain structures in a structurally sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris. The rule applies to the maintenance of any structure, including those permitted under rules in this regional plan, and those for which consents have been issued.

BW R3 (Rule 51B)

Restricted Discretionary – Use of Existing Lawfully Authorised Structures in a River, Stream or Lake (excluding Rotorua Lakes)

The use of any existing lawfully authorised structure in, on, under or over the bed of a river or stream (including a modified watercourse), or Lake (excluding Rotorua Lakes) where:

- 1 The structure existed on the date on which this rule becomes operative; and
- 2 The structure is not a dam; and

- 3 The structure is not otherwise permitted by a rule in this regional plan;
Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
- (i) Soil conservation or land stability (including the stability of the bed of the surface water body).
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including effects on flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Natural character, including the cumulative effects of structures in an area.
 - (vii) Landscape character and amenity values.
 - (viii) Legal public access.
- (b) Maintenance of the structure.
- (c) Monitoring and information requirements.

Advisory Note

- 1 BW R3 applies when consents are sought, or where the structure is not otherwise covered by a resource consent under the Act.
- 2 BW R3 does not apply to structures in the Rotorua Lakes.
- 3 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for existing lawfully authorised structures, excluding dams and structures in the Rotorua lakes, that do not otherwise comply with the permitted activity conditions in relevant rules in this regional plan, and where the adverse effects of the activity need to be assessed on a case by case basis. Dams are addressed by rules for the Damming and Diversion of Water in the Water Quantity section of this regional plan.

BW R4 (Rule 51C)

Restricted Discretionary – Extension and Upgrade of Existing Lawfully Authorised Structures

The extension and upgrade of any existing lawfully authorised structure in, on, under or over the bed of a river, stream (including modified watercourse) or lake (excluding Rotorua Lakes) where:

- 1 The structure existed on the date on which this rule becomes operative; and
- 2 The structure is not a dam; and
- 3 The activity is not associated with the piping of a stream; and
- 4 The structure is not otherwise permitted by a rule in this regional plan;

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Soil conservation or land stability (including the stability of the bed of the surface water body).
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including effects on flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Natural character, including the cumulative effects of structures in the area.
 - (vii) Landscape character and amenity values.
 - (viii) Maintenance of legal public access.
- (b) Maintenance of the structure.
- (c) Monitoring and information requirements.

Advisory Note

- 1 BW R4 does not apply to structures in the Rotorua Lakes.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for the extension and upgrade of existing lawfully authorised structures in, on, under or over the bed of a stream, river or lake (excluding Rotorua Lakes) while retaining control over matters the Regional Council has concerns. BW R4 applies to activities that are not otherwise related to the maintenance of a structure (refer to Definition of Terms).

BW R5 (Rule 52)

Permitted – Surface Water Intake Structures

The use, erection, reconstruction, placement, alteration and extension of a surface water intake structure in, on, under or over the bed of a river, stream or lake, and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The structure shall not include an infiltration gallery in the bed of a surface water body.
- (b) The structure shall not restrict the cross-sectional area by more than five square metres, or 5% of the width of the river, stream, or lake; whichever is the lesser.
- (c) The intake structure shall be screened with a mesh aperture size:
 - (i) Not exceeding three (3) millimetres by 30 millimetres in the tidal areas of rivers and streams.
 - (ii) Not exceeding five (5) millimetres by 30 millimetres or five (5) mm diameter holes in any other area that is not in the tidal area of a river or stream.
- (d) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.

- (e) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in a water body not otherwise covered by (i).
- (f) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (g) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (h) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (i) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (j) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (k) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (l) The activity shall not prevent the passage of migrating fish.
- (m) The activity shall not compromise the structural integrity of use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (n) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (o) The activity shall not alter the natural course of the river.
- (p) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (q) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (r) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (s) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (t) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (u) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (v) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (w) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

- (x) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents, or anti-fouling paints), excluding sediment, shall be released to water from the activity.

Explanation/Intent of Rule

To allow minor structures for the take and use of surface water. This rule links to Rule 41 (permitted surface water takes), but may also be used for structures associated with consented surface water takes. A surface water intake structure is a structure specifically for the take of water from a stream, river or lake, and is not a culvert (which is a stream crossing structure). Condition (c)(i) is more restrictive to address adverse effects on whitebait.

BW R6 (Rule 53)

Permitted – Discharge Structures

The use, erection, reconstruction, placement, alteration and extension of a discharge structure in, on, under or over the bed of a river, stream, or lake, and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The structure shall not restrict the cross sectional area by more than five square metres, or 5% of the width of the river, stream, or lake; whichever is the lesser.
- (b) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (c) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (f) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (h) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (i) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.

- (m) The activity shall not alter the natural course of the river.
- (n) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (q) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (s) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (t) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (u) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Explanation/Intent of Rule

To allow minor structures for the discharge of contaminants or water to water. The rule does not permit the discharge itself. This rule may be used in conjunction with permitted activity rules for stormwater and other minor discharges, but may also be used for structures associated with consented discharges. Flumes are usually on land outside the bed of a stream or river, and not addressed by this regional plan. A discharge structure is a structure specifically for the discharge of contaminants or water to a surface water body, and is not a culvert (which is a stream crossing structure). Resource users also need to account for any conditions relating to the actual discharge of contaminants or water when designing a discharge structure. For example, the discharge conditions may require a diffuser for mixing purposes, or only allow a specific rate of discharge (which may then affect the pipe size).

BW R7 (Rule 54)

Permitted - Navigational Markers, Signs, Ski Lane Markers and Canoe Gates

The use, erection, reconstruction, placement, alteration or extension of a navigational marker, sign, ski lane marker, or canoe gate in, on, under or over the bed of a river, stream, or lake, and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (b) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (c) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (d) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.

- (e) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (f) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (g) The activity shall not prevent the passage of migrating fish.
- (h) The activity shall not compromise the structural integrity or use of any other authorised structure of activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (i) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (j) The activity shall not alter the natural course of the river.
- (k) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (l) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (m) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (n) The structure shall at all times be maintained in a sound condition for the purpose for which for which it was constructed, and be kept clear of accumulated debris.
- (o) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (p) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (q) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (r) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.
- (s) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paints, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (t) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).

Advisory Note

- 1 Separate approval for the placement of navigation markers, signs, ski lane markers and canoe gates is also required from the Harbour Master with regards to navigation and safety matters.

Explanation/Intent of Rule

To allow minor structures that may be necessary for public safety, or recreational use of the water body. Such structures are not anticipated to have significant adverse environmental effects.

BW R8 (Rule 55)**Permitted - Overhead Lines, Cables, Ropeways and Associated Structures Over the bed of a River, Stream or Lake**

The use, erection, reconstruction, placement, alteration or extension of any overhead line, cable, ropeway and associated structures, including any telecommunication line as defined in section 2(1A) of the Telecommunication Act 1987, over the bed of a river, stream, or lake is a permitted activity subject to the following conditions:

- (a) No part of the structure shall be fixed to the bed of a river, stream, or lake.
- (b) Except in relation to (c), the structure shall be constructed to allow the flood flow from a 2% AEP event, plus an additional eight (8) metres.
- (c) Where the structure is an electric line crossing, the structure shall comply with the safety separation distances in the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).
- (d) Where the structure conveys a contaminant, there shall be no discharge of contaminants from the structure.
- (e) Appropriate signage shall be used at the site to notify the community of the overhead structure in navigable areas, where there is a risk of contacting the overhead structure when navigating waterways. Except that this condition shall not apply to existing electric line crossings that comply with the safety separation distances in the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001).
- (f) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (g) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (h) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (i) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (j) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (k) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (l) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (m) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.

Advisory Note

- 1 BW R8 is for structures that cross over the bed, but which are not below water level, and where no part of the structure is in, on or under the bed of stream, river or lake.
- 2 High wires that cross a water body must also comply with the requirements of the Civil Aviation Authority with regards to aerial safety matters.
- 3 BW R8 applies to the construction and use of new overhead structures that are constructed or existing structures that are upgraded (being more than maintenance as provided for in BW R2, and the ongoing use of existing structures that otherwise comply with the rule conditions.
- 4 Signage on structures on, in, or over navigable water bodies is also regulated by the Maritime Safety Authority of New Zealand (MSA).

Explanation/Intent of Rule

To allow structures over the bed of a stream, river or lake that are not expected to be under water, except in extreme flood situations. The rule is consistent with section 418(3C) of the Act. Condition (d) does not apply to accumulated dust on lines or cables that is washed into water during rainfall events it has negligible effects. BW R23 applies to any line, etc. that is attached to another structure over the bed of a stream, river or lake. Logging hauler cables are included by the coverage of this rule. The temporary placement of electric fences over a water body is not subject to this rule.

BW R9 (Rule 56)**Permitted - Lines, Cables or Pipelines Under the bed of a River, Stream or Lake**

The use, erection, reconstruction, placement, alteration or extension of any line, cable or pipeline, including any telecommunication line as defined in section 2(1A) of the Telecommunication Act 1987, under the bed of a river, stream, or lake, where the structure is installed by drilling or tunnelling (including any pipe thrusting), is a permitted activity subject the following conditions:

- (a) Any pipeline, line or cable located under the bed of a river, stream, or lake, including pipe thrusting, shall be to a minimum depth of four (4) metres under beds exceeding ten (10) metres wide, and the location identified by markers, both up and downstream, on the banks of the surface water body concerned. Where the bed does not exceed ten (10) metres wide the minimum depth shall be two (2) metres.
- (b) Where the structure conveys a contaminant, there shall be no discharge of contaminants from the structure.
- (c) Any tunnelling shall begin sufficiently far back from the bed of a river, stream, or lake so as not to be exposed by scour during a flood.
- (d) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (e) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.

- (f) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (g) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (h) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (i) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (j) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed.
- (k) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (l) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Explanation/Intent of Rule

To allow structures under the bed of a stream, river or lake, and encourage pipe thrusting under the bed of a river, stream, or lake rather than placing it across the bed where it may have greater adverse effects on the environment. The rule is consistent with section 418(3C) of the Act.

BW R10 (Rule 56A)

Restricted Discretionary – Lines, Cables or Pipelines Under the bed of a river, stream, lake

The use, erection, reconstruction, placement, alteration or extension of any line, cable or pipeline, including any telecommunication line as defined in section 2(1A) of the Telecommunication Act 1987, under the bed of a river, stream, or lake, where the structure is installed by drilling or tunnelling (including any pipe thrusting), where:

- 1 The structure is located below the bed of the surface water body at scour depth plus one (1) metre;

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Matters to avoid, remedy or mitigate adverse effects on the stability of the beds and banks of streams, rivers or lakes, including erosion protection works.
- (b) Structural integrity of the structure.
- (c) Depth of the structure below the bed of the surface water body.
- (d) Where the structure conveys a contaminant, measures to ensure there is no discharge of contaminants from the structure.
- (e) Measures to ensure any tunnelling begins sufficiently far back from the bed of a river, stream, or lake so as not to be exposed by scour during a flood.
- (f) Monitoring requirements.

Explanation/Intent of Rule

To provide for structures under the bed of a stream, river or lake, where the depth of the structure does not comply with BW R9(a).

BW R11 (Rule 57)**Permitted - Monitoring and Sampling Structures**

The use, erection, reconstruction, placement, alteration or extension of any equipment, measuring apparatus or similar device in, on, under or over the bed of a river, stream, or lake for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples, and associated bed disturbance, is a permitted activity subject the following conditions:

- (a) The structure shall not restrict the cross-sectional area by more than five square metres, or 5% of the width of the river, stream, or lake; whichever is the lesser.
- (b) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (c) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (f) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (g) The structure shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (h) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (i) The structure shall not prevent the passage of migrating fish.
- (j) The activity shall not compromise the structural integrity of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (k) The structures shall not cause a hazard to navigation in navigable rivers.
- (l) The structure shall not alter the natural course of the river.
- (m) All machinery shall be kept out of the bed of the stream or river where practicable.
- (n) The disturbance of the bed shall be limited to the extent necessary to install the structure.

- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (q) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (s) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (t) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.
- (u) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.

Explanation/Intent of Rule

To allow monitoring and sampling structures necessary for water research and environmental monitoring.

BW R12 (Rule 58)

Permitted – Culverts and Single Span Bridges Constructed by City or District Councils or NZTA within urban areas or within 1 kilometre upstream of urban areas

The use, erection, reconstruction, placement, alteration or extension of a culvert or single span bridge in, on, under or over the bed of a river, stream, or lake, where the structure:

- 1 Is constructed and maintained by a city or district council, or its contractors, exercising its functions under the Local Government Act 1974, or by NZTA or its contractors, exercising its functions under the Transit New Zealand Act 1989, and
- 2 Is located within an Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement, and
- 3 Is not located where the adjacent land slope is greater than 35°; and
- 4 Is not located in a wetland,

Is a permitted activity subject to the following conditions:

- (a) The city or district council, or NZTA shall provide the Regional Council with a copy of their engineering Code of Practice that shows how the district or city council or NZTA will comply with the standards (e) and (f).
- (b) The structure shall be designed by, or under the guidance of, a chartered professional engineer.
- (c) Where the structure is a culvert, the culvert shall also comply with the following conditions:
 - (i) There shall be only one culvert per crossing of the appropriate length.
 - (ii) The maximum fill height over the culvert shall be 1.5 metres.

- (iii) Culvert inlets (entry point) and outlets (exit point) shall be protected against erosion.
- (iv) The culvert invert shall be installed a minimum of 0.1 metres below the level of the bed of a river, stream, or lake.
- (v) The culvert shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event by heading up to a maximum of 0.5 metres below the road surface, and the passage of the 10% AEP event without heading up.
- (vi) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (vii) The disturbance of the bed of the water body shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (viii) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (ix) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (x) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (xi) Where the culvert is in a water body listed in Schedule 1, the owner of the structure shall notify the Regional Council of the location of the culvert at least five (5) working days prior to construction.
- (d) Where the structure is a single span bridge, the bridge shall also comply with the following conditions:
 - (i) No excavations or infilling of the banks of a river, stream, lake or wetland shall be carried out.
 - (ii) The bridge abutments or foundations shall be constructed parallel to the flow.
 - (iii) The bridge shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event with minimum clearance of 0.6 metres, or 1.2 metres where large trees can be transported by the river or stream.
 - (iv) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (e) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (f) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (g) The activity shall not prevent the passage of migrating fish.

- (h) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works (defined in Schedule 5).
- (i) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (j) The structure shall not alter the natural course of the river.
- (k) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (l) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (m) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (n) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (o) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (p) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (q) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Advisory Note

- 1 Refer to BW R15 and BW R20 for culverts and single span bridges outside urban areas.
- 2 BW R12 takes precedence over BW R17 where there is a Land Drainage Canal within an urban area or settlement, or within one kilometre upstream of an urban area or settlement.
- 3 In relation to condition (c)(ii), the fill height is measured as the fill above the culvert crest.
- 4 In relation to condition 4, the modification of a wetland a discretionary activity under WL R9.
- 5 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017

Explanation/Intent of Rule

To allow city and district councils, or NZTA to construct, and use culverts and single span bridges within urban areas, or within one kilometre upstream of an urban area. This rule addresses structures in natural and modified streams and river, and does not apply to structures in artificial watercourses. These organisations have been permitted to construct specific structures within what would otherwise be a high risk area due to either the linkage with their functions under the Local Government Act to address potential flooding effects, or Transit Zealand Act 1989 to operate State Highways. Also city and district councils have good knowledge of urban areas where they have traditionally been focused.

BW R13 (Rule 58A)

Controlled – Culverts Constructed by City or District Councils or NZTA within urban areas or within 1 kilometre upstream of urban areas where fill height is greater than 1.5 metres and no greater than 2.5 metres, or the crossing has multiple culverts

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on, under or over the bed of a river, stream, or lake where the structure:

- 1 Is constructed and maintained by a city or district council, or its contractors, exercising its functions under the Local Government Act 1974, or by NZTA or its contractors, exercising its functions under the Transit New Zealand Act 1989, and
- 2 Is located within an urban area or settlement, or within one (1) kilometre upstream of any urban area or settlement, and
- 3 Is not located where the adjacent land slope is greater than 35°; and
- 4 Is not located in a wetland;

and either 5 or 6;

- 5 The fill height over the culvert is greater than 1.5 metres and no greater than 2.5 metres.
- 6 There is more than one culvert per crossing.

Is a controlled activity subject to the following conditions:

- (a) The culvert shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event by heading up to a maximum of 0.5 metres below the road surface, and the passage of the 10% AEP event without heading up.
- (b) The culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter. The embankment shall be well compacted in uniform layers not exceeding 300 mm loose depth to achieve a compaction of at least 95% of maximum dry density.
- (c) The activity shall not prevent the passage of migrating fish.
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.

The Regional Council reserves its control over the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Erosion or land instability, including erosion protection works.
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Other structures.
 - (vii) Navigation in navigable rivers and lakes.

- (viii) Houses, assets and other activities downstream of the culvert, which are at risk of the culvert failure.
- (b) Measures to minimise the duration and extent of bed disturbance.
- (c) Measures to avoid or mitigate vegetation, soil, slash, construction material or other debris being deposited in the surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (d) Maintenance of the culvert.
- (e) Construction standards, including ensuring the structure can not break free and cause a blockage or erosion.
- (f) Number of culverts in the cross-sectional area of the stream.
- (g) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for culverts where the fill height or number of culverts in the crossing structure needs to be assessed by the Regional Council as a controlled activity.

BW R14 (Rule 58B)

Restricted Discretionary – Culverts Constructed by City or District Councils or NZTA within urban areas or within 1 kilometre upstream of urban areas where fill height is greater than 2.5 metres

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on, under or over the bed of a river, stream, or lake where the structure:

- 1 Is constructed and maintained by a city or district council, or its contractors, exercising its functions under the Local Government Act 1974, or by NZTA or its contractors, exercising its functions under the Transit New Zealand Act 1989; and
- 2 Is located within an urban area or settlement, or within one (1) kilometre upstream of any urban area or settlement; and
- 3 Is not located where the adjacent land slope is greater than 35°; and
- 4 Is not located in a wetland; and
- 5 The fill height over the culvert is greater than 2.5 metres;

Is a restricted discretionary activity subject to the following conditions:

- (a) The culvert shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event by heading up to a maximum of 0.5 metres below the road surface, and the passage of the 10% AEP event without heading up.
- (b) The culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter. The embankment shall be well compacted in uniform layers not exceeding 300 mm loose depth to achieve a compaction of at least 95% of maximum dry density.
- (c) The activity shall not prevent the passage of migrating fish.

- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (f) The resource consent applicant shall supply:
 - (i) A report confirming that the culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter; and that the embankment shall be well compacted in uniform layers not exceeding 300 mm loose depth to achieve a compaction of at least 95% of maximum of maximum dry density.
 - (ii) A geotechnical report affirming that the culvert embankment will be of safe batter slope, and construction to avoid failure.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Erosion or land instability, including erosion protection works.
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Other structures.
 - (vii) Navigation in navigable rivers and lakes.
 - (viii) Houses, assets and other activities downstream of the culvert, which are at risk of the culvert failure.
- (b) Measures to minimise the duration and extent of bed disturbance.
- (c) Measures to avoid or mitigate vegetation, soil, slash, construction material or other debris being deposited in the surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (d) Maintenance of the culvert.
- (e) Construction standards, including ensuring the structure can not break free and cause a blockage or erosion.
- (f) Number of culverts in the cross-sectional area of the stream.
- (g) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for culverts where the fill height in the crossing structure needs to be assessed fully by the Regional Council as a restricted discretionary activity.

BW R15 (Rule 59)**Permitted – Culverts and Culvert Extensions**

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on or under the bed of a river, stream, or lake, and associated bed disturbance, where the culvert:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located within any Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement, and
- 3 Is not located in a wetland,
- 4 Is not located in a Land Drainage Canal;

Is a permitted activity subject to the following conditions:

- (a) There shall be only one culvert per crossing of the appropriate length.
- (b) The culvert shall be constructed:
 - (i) To allow the flood flow from a 5% AEP (1 in 20 year return) event with no freeboard, and
 - (ii) To allow the flood flow of a 2 year return period flood event with no heading up.
- (c) The minimum culvert diameter shall be 300 mm and the maximum culvert diameter shall be 1200 mm.
- (d) The maximum fill height over the culvert shall be 1.5 metres.
- (e) Culvert inlets (entry point) and outlets (exit point) shall be protected against erosion.
- (f) The culvert invert shall be installed a minimum of 0.1 metres below the level of the bed of a river, stream, or lake.
- (g) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (h) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (i) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (j) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (k) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (l) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (m) Where the culvert is in a water body listed in Schedule 1, the owner of the structure shall notify the Regional Council of the location of the culvert at least five (5) working days prior to construction.

- (n) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (o) The activity shall not prevent the passage of migrating fish.
- (p) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed or the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (q) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (r) The structure shall not alter the natural course of the river.
- (s) All machinery shall be kept out of the bed of the stream, river, or lake where practicable.
- (t) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (u) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (v) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (w) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (x) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (y) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Advisory Note

- 1 Advice is available from the Regional Council on appropriate options, design and construction of culverts.
- 2 In relation to condition (d), the fill height is measured as the fill above the culvert crest.
- 3 In relation to condition 3, the modification of a wetland is a discretionary activity under WL R9.
- 4 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow culverts in low risk areas (high risk areas are identified in conditions 1 to 4 above). Culverts are generally permitted to encourage the community to install crossing structures rather than use the actual bed of a river, stream, or lake. Culvert structures with more than one culvert per crossing require a consent.

BW R16 (Rule 59A)**Controlled – Culverts and Culvert Extensions**

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on or under the bed of a river, stream, or lake, and associated bed disturbance, where the culvert:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located within any Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement, and
- 3 Is not located in a wetland, and
- 4 The culvert diameter is no greater than 1800 mm, and
- 5 Is not located in a Land Drainage Canal,

Is a controlled activity subject to the following conditions:

- (a) The activity shall not prevent the passage of migrating fish.
- (b) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (c) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (d) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (e) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (f) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (g) The structure shall not alter the natural course of the river.
- (h) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (i) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (j) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (k) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (l) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (m) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (n) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

The Regional Council reserves its control over the following matters:

- (a) Measures to account for prevailing ground slope.
- (b) Catchment size above the culvert.
- (c) Erosion protection works.
- (d) Maintenance of the culvert.
- (e) Fill height above the culvert.
- (f) Velocity of water from the culvert.
- (g) Construction standards.
- (h) Measures to provide for fish passage.
- (i) Location of the culvert.
- (j) Size of the culvert.
- (k) Flood design levels.
- (l) Measures to account for soil type and geology.
- (m) Number of culverts in the cross-sectional area of the stream.
- (n) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for culverts that are not within high risk areas (specified in 1 to 5), and not in a Land Drainage Canal, but of a size and catchment area that requires the engineering design of the proposed culvert to be checked by the Regional Council.

BW R17 (Rule 59B)

Permitted – Culverts in Land Drainage Canals

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on or under the bed of a Land Drainage Canal (refer to Definition of Terms), and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The culvert shall be designed to a flood flow capacity that does not impede the drainage function of the land drainage scheme. The administrator of the land drainage scheme shall be consulted to determine the appropriate flood flow capacity for the site.
- (b) The maximum fill height over the culvert shall be 1.5 metres.
- (c) Culvert inlets (entry point) and outlets (exit point) shall be protected against erosion.
- (d) No works shall be carried out in the wet part of the bed in the tidal reaches of a Land Drainage Canal between 1 March and 31 May.
- (e) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.

- (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (f) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (g) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (h) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (i) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks or any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (l) The structure shall not alter the natural course of the land Drainage Canal.
- (m) All machinery shall be kept out of the bed of the Land Drainage Canal where practicable.
- (n) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (q) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage of erosion.
- (s) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the Land Drainage Canal.

Advisory Note

- 1 Approval from the administrator of the land drainage scheme may also be required under the Environment Bay of Plenty Regional Council Floodway and Drainage Bylaw 2002, which applies to Land Drainage Canals administrated by the Regional Council. In the Bay of Plenty region, the land drainage scheme administrators are the Regional Council or Western Bay of Plenty District Council.
- 2 BW R12 takes precedence over BW R17 where there is a Land Drainage Canal within an urban area or settlement, or within one kilometre upstream of an urban area or settlement.

- 3 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow culverts in Land Drainage Canals. Culverts are generally permitted to encourage the community to install crossing structures rather than use the actual bed of a waterway.

BW R18 (Rule 59C)

Controlled – Culverts where fill height is greater than 1.5 metres and no greater than 2.5 metres, or the crossing has multiple culverts

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on under or over the bed of a river, stream, or lake, where the structure:

- 1 Is not located within an Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement; and
 - 2 Is not located where the adjacent land slope is greater than 35°; and
 - 3 Is not located in a wetland;
- and either 4 or 5;
- 4 The fill height over the culvert is greater than 1.5 metres and no greater than 2.5 metres.
 - 5 There is more than one culvert per crossing.

Is a controlled activity subject to the following conditions:

- (a) The culvert shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event by heading up to a maximum of 0.5 metres below the road surface, and the passage of the 10% AEP event without heading up.
- (b) The culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter. The embankment shall be well compacted in uniform layers not exceeding 300 mm loose depth to achieve a compaction of at least 95% of maximum dry density.
- (c) The activity shall not prevent the passage of migrating fish.
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.

The Regional Council reserves its control over the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Erosion or land instability, including erosion protection works.
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including flooding or ponding.
 - (v) Natural water flow and flood flows.

- (vi) Other structures.
- (vii) Navigation in navigable rivers and lakes.
- (viii) Houses, assets and other activities downstream of the culvert, which are at risk of the culvert failure.
- (b) Measures to minimise the duration and extent of bed disturbance.
- (c) Measures to avoid or mitigate vegetation, soil, slash, construction material or other debris being deposited in the surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (d) Maintenance of the culvert.
- (e) Construction standards, including ensuring the structure can not break free and cause a blockage or erosion.
- (f) Numbers of culverts in the cross-sectional area of the stream.
- (g) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation /intent of Rule

To provide for culverts where the fill height or number of culverts in the crossing structure needs to be assessed by the Regional Council.

BW R19 (Rule 59D)

Restricted Discretionary– Culverts where fill height is greater than 2.5 metres

The use, erection, reconstruction, placement, alteration or extension of a culvert in, on, under or over the bed of a river, stream, or lake where the structure:

- 1 Is not located within an urban area or settlement, or within one kilometre upstream of any urban area or settlement; and
- 2 Is not located where the adjacent land slope is greater than 35°; and
- 3 Is not located in a wetland; and
- 4 The fill height over the culvert is greater than 2.5 metres;

Is a restricted discretionary activity subject to the following conditions:

- (a) The culvert shall be constructed to allow the passage of the 1% AEP (1 in 100 year return) event by heading up to a maximum of 0.5 metres below the road surface, and the passage of the 10% AEP event without heading up.
- (b) The culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter. The embankment shall be well compacted in uniform layers not exceeding 300mm loose depth to achieve a compaction of at least 95% of maximum dry density.
- (c) The activity shall not prevent the passage of migrating fish.
- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.

- (f) The resource consent applicant shall supply:
 - (i) A report confirming that the culvert embankment shall be comprised of suitable soils free of wood, humus and other organic matter; and that the embankment shall be well compacted in uniform layers not exceeding 300 mm loose depth to achieve a compaction of at least 95% of maximum dry density.
 - (ii) A geotechnical report affirming that the culvert embankment will be of safe batter slope, and constructed to avoid failure.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Erosion or land instability, including erosion protection works.
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Other structures.
 - (vii) Navigation in navigable rivers and lakes.
 - (viii) Houses, assets and other activities downstream of the culvert, which are at risk of the culvert failure.
- (b) Measures to minimise the duration and extent of bed disturbance.
- (c) Measures to avoid or mitigate vegetation, soil, slash construction material or other debris being deposited in the surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (d) Maintenance of the culvert.
- (e) Construction standards, including ensuring the structure can not break free and cause a blockage or erosion.
- (f) Number of culverts in the cross-sectional area of the stream.
- (g) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for culverts where the fill height in the crossing structure needs to be assessed fully by the Regional Council.

BW 20 (Rule 60)**Permitted – Single Span Bridges, or Single Span Pipe Bridges**

The use, erection, reconstruction, placement, alteration or extension of a single span bridge or single span pipe bridge over the bed of a river, stream, or lake, where the structure:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located within any Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement, and
- 3 Is not located in a wetland, and
- 4 Is a bridge that crosses a waterway with a contributing catchment of no greater than 100 hectares, and
- 5 Is not located in a Land Drainage Canal;

and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The structure shall be designed by, or under the guidance of, a chartered professional engineer, except where the length of the bridge is less than four (4) metres as measured between the banks of the surface water body.
- (b) The bridge shall be constructed to allow the flood flow from a 10% AEP (1 in 10 year return) event with a minimum clearance of 0.3 metres.
- (c) No excavations or infilling of the banks of a river, stream, lake or wetland shall be carried out.
- (d) The bridge abutments or foundations shall be constructed parallel to the flow.
- (e) Where the structure conveys a contaminant, there shall be no discharge of contaminants from the structure.
- (f) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (g) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (h) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (i) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river, or lake, including flood control works in River Scheme Works Area (defined in Schedule 5).
- (l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (m) The structure shall not alter the natural course of the river.
- (n) All machinery shall be kept out of the bed of the stream, river or lake where practicable.

- (o) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (p) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (q) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (r) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (s) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (t) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (u) Structures over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (v) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.
- (w) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.

Advisory Note

- 1 In relation to condition 3, the modification of a wetland is a discretionary activity under WL R9.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow small scale, single span bridges in low risk areas (high risk areas are identified in conditions (1) to (5)). Single span bridges are permitted to encourage the community to install crossing structures rather than use the bed of a river, stream or lake.

BW R21 (Rule 60A)

Controlled – Single Span Bridges, or Single Span Pipe Bridges

The use, erection, reconstruction, placement, alteration or extension of a single span bridge or single span pipe bridge, over the bed of a river, stream, or lake, where the structure:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located within any Urban Area or Settlement, or within one (1) kilometre upstream of any Urban Area or Settlement, and
- 3 Is not located in a wetland, and
- 4 The bridge crosses a waterway with a contributing catchment of greater than 100 hectares and not greater than 5,000 hectares, and
- 5 Is not located in a Land Drainage canal;

Is a controlled activity subject to the conditions:

- (a) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (b) The activity shall not prevent the passage of migrating fish.
- (c) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (d) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (e) The structure shall not alter the natural course of the river.
- (f) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (h) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (i) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (j) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (k) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (l) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (m) Structures over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (n) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

The Regional Council reserves its control over the following matters:

- (a) Measures to account for prevailing ground slope.
- (b) The timing of any disturbance of the bed of a surface water body in relation to adverse effects on aquatic ecosystems, including indigenous biodiversity.
- (c) Erosion protection works.
- (d) Maintenance of the bridge.
- (e) Soffit height above the watercourse.
- (f) Velocity of water under the bridge.
- (g) Construction standards.
- (h) Location of the bridge.

- (i) Flood design levels.
- (j) Measures to account for soil type and geology.
- (k) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for single span bridges that are not within high risk areas (specified in 1 to 5), but of a size and catchment area that requires the engineering design of the proposed single span bridge to be assessed by the Regional Council.

BW R22 (Rule 60B)

Permitted – Single Span Bridges, or Single Span Pipe Bridges in Land Drainage Canals

The use, erection, reconstruction, placement, alteration or extension of a single span bridge or single span pipe bridge, over the bed of a river, stream, or lake, where the structure is located in Land Drainage Canal (refer to Definition of Terms); and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The structure shall be designed to a flood flow capacity that does not impede the drainage function of the land drainage scheme. The administrator of the land drainage scheme shall be consulted to determine the appropriate flood flow capacity for the site.
- (b) The structure shall be designed by, or under the guidance of, a chartered professional engineer, except where the length of the bridge is less than four (4) metres as measured between the banks of the surface water body.
- (c) No excavations or infilling of the banks of a river, stream, lake or wetland shall be carried out.
- (d) The bridge abutments or foundations shall be constructed parallel to the flow.
- (e) Where the structure conveys a contaminant, there shall be no discharge of contaminants from the structure.
- (f) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (g) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (h) The construction, installation and ongoing presence of the culvert shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (i) The activity shall not prevent the passage of migrating fish.
- (j) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).

- (k) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (l) The structure shall not alter the natural course of the river.
- (m) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (n) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (q) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (s) Approaches and abutments shall be stabilised and appropriate water controls installed, to protect against erosion.
- (t) Structures over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (u) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Advisory Note

- 1 Approval from the administrator of the land drainage scheme may also be required under the Regional Council Floodway and Drainage Bylaw 2002, which applies to Land Drainage Canals administered by the Regional Council. In the Bay of Plenty region, the land drainage scheme administrators are the Regional Council or Western Bay of Plenty District Council.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow single span bridges in Land Drainage Canals. Single span bridges are generally permitted to encourage the community to install crossing structures rather than use the actual bed of a waterway.

BW R23 (Rule 61)

Permitted – Service Crossings Attached to Bridges

The use, erection, reconstruction, placement, alteration or extension of a service crossing, including any telecommunication line as defined in section 2(1A) of the Telecommunication Act 1987, over the bed of a river, stream, or lake, where the service crossing is attached to an existing bridge is a permitted activity subject to the following conditions:

- (a) The existing bridge shall comply with BW R20 or BW R1.
- (b) Where service crossings are attached to bridges, the service crossing shall be adequately secured to the bridge to a standard that will withstand a 1% AEP flood flow event to ensure the service crossing does not break free.

- (c) Where a service crossing attached to a bridge carries contaminants, the service crossing shall be located on the downstream side of the bridge.
- (d) Where the service crossing conveys a contaminant, there shall be no discharge of contaminants from the service crossing.

Explanation/Intent of Rule

To allow service crossings attached to existing bridges that are not likely to have adverse effects on the environment. Operators of service crossings are to ensure that there are no discharges of contaminants from the structure, which may involve the development of contingency plans to address spills and leaks.

BW R24 (Rule 62)

Permitted – Fords

The use, erection, construction, placement, alteration or extension of a ford in, or on the bed of a river, stream, or lake, where the ford:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located in a wetland, and
- 3 The structure is not located in a stream or river identified in Schedule 1,

and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The ford shall be constructed in a location where there are hard and stable beds and banks.
- (b) Any concrete pouring shall be carried out so as to prevent concrete or concrete ingredients washing out into the water body.
- (c) Banks on either side of the ford shall be less than one (1) metre high.
- (d) The ford shall comply with either (i) or (ii):
 - (i) The water body in which the ford is to be constructed shall have a maximum water depth no greater than 0.6 metres, calculated with reference to the mean annual low flow of the water body.
 - (ii) The depth of flow over the ford, after construction, shall have a maximum water depth no greater than 0.3 metres calculated with reference to the mean annual low flow of the water body.
- (e) The structure shall not dam or divert water to cause flooding or ponding on any land or property owned or occupied by another person.
- (f) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (g) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than five (5) consecutive days.
- (h) The construction, installation and ongoing presence of the ford shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (i) The structure shall not prevent the passage of migrating fish.

- (j) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (k) The structures shall not alter the natural course of the river.
- (l) During construction of the ford, all machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (m) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (n) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (o) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (p) The structure shall be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (q) Approaches and abutments shall be stabilised, and appropriate water controls, installed, to protect against erosion.
- (r) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.

Advisory Note

- 1 In relation to condition 2, the modification of a wetland is a discretionary activity under WL R9.
- 2 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow small scale fords in low risk areas (high risk areas are identified in conditions 1 and 3). This rule applies to poured concrete fords, and not multiple, immersed-pipe fords (battery culverts) or drift decks. Battery culverts are addressed by BW R12 to BW R19 (inclusive).

BW R25 (Rule 62A)

Restricted Discretionary – Fords in Schedule 1 areas

The use, erection, construction, placement, alteration or extension of a ford in, or on the bed of a river, stream, or lake, where the ford:

- 1 Is not located where the adjacent land slope is greater than 35°, and
- 2 Is not located in a wetland, and
- 3 Is located in a stream or river identified in Schedule 1, and
- 4 associated bed disturbance,

Is a restricted discretionary activity subject to the following conditions:

- (a) The structure shall not dam or divert water to cause flooding or ponding on any land or property owned or occupied by another person.
- (b) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.

- (c) The construction, installation and ongoing presence of the ford shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (d) The activity shall provide for permanent fish passage.
- (e) The structure shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (f) The structure shall not alter the natural course of the river or stream.

The Regional Council restricts discretion to the following matters:

- (a) Aspects of design of the ford that:
 - (i) Provide for permanent fish passage.
 - (ii) Provide for site characteristic, including slope of the bed of the water body, flow velocity, and substrate materials.
 - (iii) Provide for flood flows.
- (b) Measures to avoid, remedy or mitigate the adverse effects on:
 - (i) Aquatic ecosystems including indigenous biodiversity.
 - (ii) Erosion or land instability, including erosion protection works.
 - (iii) Property owned or occupied by another person, including flooding or ponding.
 - (iv) Water quality, including from the release of sediment from the disturbance of the bed of the river or stream, and pouring of concrete.
 - (v) Existing authorised structures in the bed of the river or stream.
- (c) Measures to minimise the disturbance of the bed of the river or stream.
- (d) Measures to avoid, or mitigate vegetation, soil, slash or debris being deposited into the river or stream.
- (e) Maintenance of the ford.
- (f) Monitoring requirements.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for fords in Schedule 1 areas that otherwise comply with the relevant standard conditions, particularly permanent fish passage. This rule applies to poured concrete fords, and not multiple, immersed-pipe fords (battery culverts) or drift decks. Battery culverts are addressed by BW R12 to BW R19 (inclusive).

BW R26 (Rule 63)**Permitted – Mai Mai, Whitebait Stands and Game Bird Shooting Structures**

The use, erection, reconstruction, placement, alteration or extension of mai mai, whitebait stands and game shooting structures, in, on, under or over the bed of a river, stream, or lake, or wetland, and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The structure shall be open piled.
- (b) No clearance of vegetation shall occur as a result of construction of the structure, other than that immediately underneath the structure and is the minimum clearance necessary to maintain single file foot access to the structure.
- (c) The structure shall be located at least 20 metres from any flood gate, culvert, bridge, stopbank or confluence.
- (d) The floor area of the structure shall not exceed 5 square metres.
- (e) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (f) The disturbance of the bed of the water body and release of sediment resulting from the construction of the structure shall not occur for a period greater than:
 - (i) A total period of 48 consecutive hours per structure in any water body listed in Schedule 1.
 - (ii) A total period of five (5) consecutive days per structure in any water body not otherwise covered by (i).
- (g) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
- (h) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (i) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during construction of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (j) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (k) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (l) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (m) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (n) All machinery shall be kept out of the bed of the stream, river, lake or wetland where practicable.
- (o) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (p) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.

- (q) The structure shall at all times be maintained in a sound condition for the purpose for which it was constructed, and be kept clear of accumulated debris.
- (r) The structure shall be constructed to ensure that the structure can not break free and cause a blockage or erosion.
- (s) Approaches and abutments shall be stabilised, and appropriate water controls installed, to protect against erosion.
- (t) Structures in, on or over the beds of lakes shall be designed and constructed to account for natural lake water level fluctuations.
- (u) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river, lake or wetland.

Advisory Note

- 1 Mai mai, whitebait stands and game bird shooting structures should be carefully located to avoid damage to stopbanks and other flood control structures.
- 2 Mai mai construction guidelines are available from Fish and Game New Zealand, Land Information New Zealand and Department of Conservation.

Explanation/Intent of Rule

Mai mai, whitebait stands and game bird shooting structures are common, minor structures that are not expected to have significant adverse effects on the environment.

BW R27 (Rule 64)

Permitted – Drift Decks

The use, erection, construction, placement, alteration, extension and maintenance of a drift deck in or on the bed of a river or stream where the drift deck:

- 1 Is not located within an urban area or settlement, or within one (1) kilometre upstream of any urban area or settlement, and
- 2 Is not located where the adjacent land slope is greater than 35°; and
- 3 Is not located in a wetland; and
- 4 Is not located at a site with a contributing catchment greater than five square kilometres (5 km²);

and associated bed disturbance, is a permitted activity subject to compliance with the following conditions:

- (a) The structure shall not dam or divert water to cause flooding or ponding on any land or property owned or occupied by another person.
- (b) The construction, installation, and presence of the structure shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (c) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.

- (d) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (f) The structure shall not prevent the passage of migrating fish.
- (g) The inlets (entry point) and outlets (exit points) of the drift deck shall be protected against erosion with designed protection works and an upstream ramp (where the substrate of the stream or river requires such ramps). The protection works shall avoid changes to the natural flowpath of the river or stream. The upstream ramp shall mitigate the local upstream scour caused by the drift deck's obstruction of the flow, and shall be designed and installed in accordance with Figure BW 1.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for the installation and maintenance of drift deck structures in the beds of streams and rivers.

BW R28 (Rule 64A)

Restricted Discretionary – Drift Decks

The use, erection, construction, placement, alteration or extension of a drift deck in or on the bed of a river or stream, where the drift deck and associated bed disturbance is not otherwise a permitted activity under BW R27, is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the structure on:
 - (i) Erosion or land instability, including erosion protection works.
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Property owned or occupied by another person, including flooding or ponding.
 - (v) Natural water flow and flood flows.
 - (vi) Other structures.
 - (vii) Navigation in navigable rivers and lakes.
- (b) Measures to minimise the duration and extent of bed disturbance.
- (c) Measures to avoid or mitigate vegetation, soil, slash, construction material or other debris being deposited in the surface water body, or placed in a position where it could readily enter or be carried into a water body.
- (d) Maintenance of the structure, including removal of accumulated debris.
- (e) Construction standards, including ensuring the structure can not break free and cause a blockage or erosion.
- (f) The design of protection works and upstream ramp.

- (g) The flood design level of the structure.
- (h) Monitoring requirements.

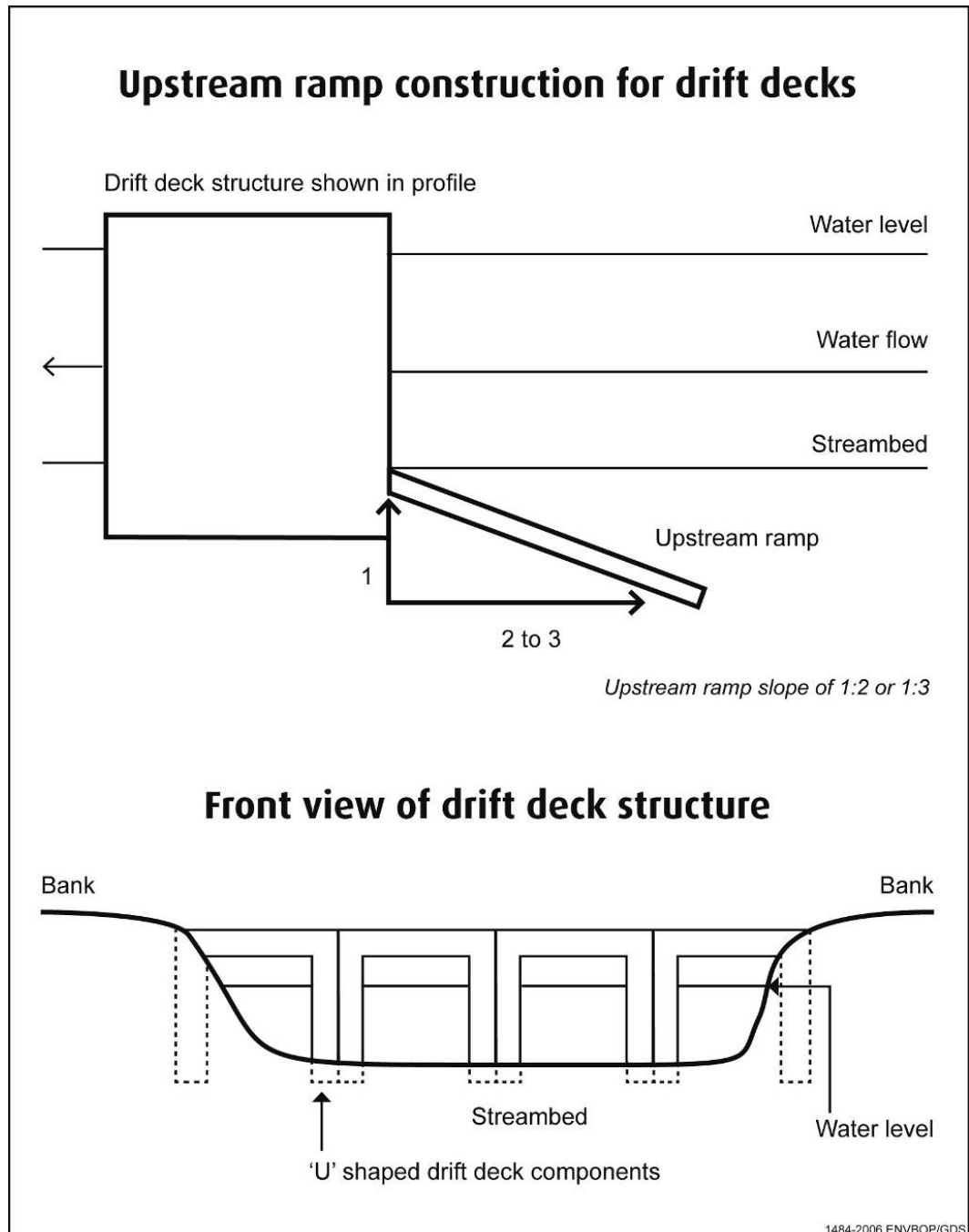
Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To provide for drift decks where the structure needs to be assessed by the Regional Council, and where the risk of the activity is greater than those activities provided for in BW R27. The Regional Council may decline resource consent applications under BW R28 where the adverse effects of the structure are not adequately avoided, remedied or mitigated in accordance with the requirements of this regional plan.

Figure BW 1 Upstream Ramp Design for Drift Decks

**BW R29 (Rule 65)****Permitted – Removal or Demolition of Structures in, on, under or over the Bed of a River, Stream, or Lake**

The demolition or removal of any structure or part of any structure in, on, under or over the bed of a river, stream, or lake, and associated bed disturbance, is a permitted activity subject to the following conditions:

- (a) The activity shall not occur in a river, stream or lake listed in Schedule 1.
- (b) There shall be no use of explosives in the water.
- (c) The structure or part thereof being removed or demolished shall be removed from the bed of a river, stream, lake or wetland, and any material or temporary structures required to undertake the activity shall be removed.

- (d) All piles shall be removed, or taken down to at least one (1) metre below the level of the bed of the stream, river or lake.
- (e) No works shall be carried out in the wet part of the bed in the tidal reaches of rivers and streams, between 1 March and 31 May.
- (f) The disturbance of the bed of the water body shall not occur for a period greater than a total of five (5) consecutive days per structure.
- (g) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during removal of the structure, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the activity site.
- (h) No contaminants (including, but not limited to, oil, hydraulic fluids, petrol, diesel, other fuels, paint, solvents or anti-fouling paints), excluding sediment, shall be released to water from the activity.
- (i) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (j) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (k) The activity shall not prevent the passage of migrating fish.
- (l) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (m) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (n) The structure shall not alter the natural course of the river.
- (o) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (p) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (q) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (r) All practicable measures shall be taken to avoid vegetation, soil slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

It is necessary to include a rule in this regional plan permitting the removal of structures from the bed of a river, stream or lake to allow the community to remove derelict or unauthorised structures which are causing significant adverse effects on the environment without the need for a resource consent, provided conditions of the rule can be met.

*Disturbances of the Bed***BW R30 (Rule 66)****Restricted Discretionary – Disturbance of the Bed of a Stream, or River to Maintain Access to Publicly Owned Boat Ramps and Jetties administered by City and District Councils**

The disturbance of the bed of a stream or river for the purposes of maintaining access to publicly owned boat ramps and jetties administered by city and district councils in or on the bed of a surface water body, where:

- 1 The activity is to allow access to and from a boat ramp or jetty, and
- 2 The boat ramp or jetty is authorised by a resource consent, and
- 3 The activity does not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland, including wetlands on the margins of streams, rivers and lakes;

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to avoid, remedy or mitigate the adverse effects of the activity on:
 - (i) Soil conservation or land stability (including the stability of the bed of the surface water body).
 - (ii) The passage of fish.
 - (iii) Aquatic ecosystems, including indigenous biodiversity.
 - (iv) Natural water flow and flood flows.
- (b) Measures to ensure dredged material, sediment or weeds removed from the water body is placed in a stable position where it will not enter any surface water body.
- (c) Timing and duration of the works relative to the spawning and migration periods of fish species present in the water body.
- (d) Volume of material removed per structure.
- (e) Monitoring and information requirements.

Explanation/Intent of Rule

To provide for the dredging of streams and rivers associated with the maintenance of authorised, publicly owned structures. This activity may be necessary where fluctuating water levels or sedimentation impede access to and use of jetties and boat ramps. City or district councils may apply for 'global' consents under Rule 66 to cover all such activities in an individual stream or river.

BW R31 (Rule 66A)**Permitted – Disturbance of the Bed of a Stream or River, and removal of plants or Sediment by a City or District Council; NZTA; the National Rail Infrastructure Owner/Manager; a Regional Council or its contractor or a person under the direction of a Regional Council or a City or District Council - for Hazard Management purposes**

The:

- 1 Disturbance of the bed of a stream, river;
- 2 Disturbance, removal, damage or destruction of plants in, on or under the bed of a stream, river or lake;

where the activity is:

- 1 The removal of material (including sediment) plants or parts of plants from the bed of a stream, river, that constitute a flooding, blockage or erosion hazard;

is a permitted activity subject to the following conditions:

- (a) The activity shall only be undertaken by:
 - (i) A city or district council or its contractor; or
 - (ii) A regional council or its contractor; or
 - (iii) A person carrying out work under the direction of a city or district council or regional council; or
 - (iv) NZTA or its contractor; or
 - (v) The National Rail Infrastructure owner/manager or its contractor.
- (b) The activity shall not cause or induce erosion of the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (c) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (d) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (e) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (f) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (g) Except in relation to (h):
 - (i) No works shall be carried out in tidal reaches of rivers and streams between 1 March and 31 May.
 - (ii) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
 - (iii) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (h) Works shall only be carried out in the wet part of the bed of the stream or river during the exclusion periods specified in (g) where there is an emergency situation that is causing flooding or erosion.
- (i) Where works are carried out under (h), the person carrying out the works shall inform the Regional Council and the Department of Conservation within 24 hours of the beginning of the works.

Advisory Note

- 1 This rule does not allow for damage, destruction or disturbance of geothermal surface features.

Explanation/Intent of Rule

To allow the disturbance of the beds of streams or rivers and removal of plants from such areas where the activity is necessary for hazard management. Nothing in BW R31 limits activities that are otherwise covered by a resource consent. Private persons may only carry out works under BW R31 where those works are carried out under the direction of a city or district council or the Regional Council.

BW R32 (Rule 66B)**Permitted – Disturbance of the Bed of a Stream, River or Lake, and Disturbance, Removal, Damage or Destruction of Plants in, on or Under the Bed of a Stream, River or Lake for specified purposes**

The:

- 1 Disturbance of the bed of a stream, river or lake; and
- 2 Disturbance, removal, damage or destruction of plants in, on or under the bed of a stream, river or lake;

where the activity is:

- 1 For customary traditional and cultural purposes or use by tangata whenua, including, but not limited to the taking of paru (mud) and removal of plants for traditional medicinal or cultural purposes, where the activity is undertaken according to tikanga Maori; or
- 2 For scientific research or monitoring purposes (including the collection of plant samples);

Is a permitted activity subject to the following conditions:

- (a) The activity shall not cause or induce erosion of the bed or banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (b) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (c) The disturbance, removal, damage or destruction of plants in or on the bed of the water body shall be limited to the extent necessary to carry out the activity.
- (d) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (e) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (f) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (g) Where the activity is for scientific research or monitoring purposes, the Regional Council shall be notified in writing, of the activity, not less than five (5) working days before the activity. The notification shall include:
 - (i) Persons responsible for the activity.
 - (ii) Location of the activity.
 - (iii) Purpose of the activity.

Purpose of the activity.

Advisory Note

- 1 This rule does not allow for damage, destruction or disturbance of geothermal surface features.
- 2 Compliance with the provisions of this regional rule does not remove the need to also comply with district and other regional plan provisions.

Explanation/Intent of Rule

To allow the disturbance of the beds of streams, rivers or lakes, and the disturbance or removal of plants from those areas where the adverse effects are less than minor.

Existing Reclamations

Advisory Note

- 1 BW R33 and BW R36 do not apply to natural accretions of gravel, sand and minerals within the beds of rivers, streams or lakes.

BW R33 (Rule 67)

Permitted – Existing, Lawfully Authorised Reclamations of the Bed of a River, Stream or Lake

Any lawfully authorised reclamation of the bed of a river, stream or lake that existed on the date on which this regional plan becomes operative is a permitted activity.

Explanation/Intent of Rule

To allow existing reclamations that comply with section 418 of the Act, where the original authorisation mechanism may expire. It would not be efficient to require resource consents for existing, authorised reclamations.

Introduction or Removal of Plants

BW R34 (Rule 68)

Permitted – The Introduction or Planting of any Plant or Part of any Plant into the Bed of a River, Stream or Lake

The introduction or planting of any plant or part of any plant into the bed of a river, stream or lake, including the associated disturbance of the bed, is a permitted activity subject to the following conditions:

- (a) Only the following plant species shall be introduced into the water body:
 - (i) indigenous plant species; or
 - (ii) Those plant species necessary for River Scheme maintenance works within River Scheme Maintenance Areas defined in Schedule 5.
- (b) Where the activity is in relation (a)(ii), the activity shall only be carried out by a river scheme administrator or its contractor.
- (c) The plant shall not be listed in the Bay of Plenty Pest Management Strategy 2003-2008 or National Plant Pest Accord.

- (d) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (e) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (f) The activity shall not prevent the passage of migrating fish.
- (g) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (h) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (i) The activity shall not alter the natural course of the river.
- (j) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (k) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (l) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (m) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

Advisory Note

- 1 This rule does not permit the introduction of plants into a floodway, wetland, or the berm of a River Scheme.
- 2 The Regional Council can advise on appropriate indigenous species for plantings in the beds of surface water bodies.

Explanation/Intent of Rule

To encourage the appropriate re-vegetation of the beds and margins of surface streams, rivers and lakes. It is important to use indigenous species, and local sourcing of plants, where possible.

BW R35 (Rule 69)

Permitted – Disturbance, Removal, Damage or Destruction of Plants In, On or Under the Bed of a Stream, River or Lake

The disturbance, removal, damage or destruction of plants in, on or under the bed of a stream, river or lake, including disturbance of the bed, is a permitted activity subject to the following conditions:

- (a) Only the following plant species shall be disturbed, removed, damaged or destroyed:
 - (i) Exotic plant species (including plant pests): or
 - (ii) Those necessary for River Scheme or Land Drainage Scheme maintenance works within River Scheme Maintenance Areas or Drainage Schemes defined in Schedule 5.
- (b) Where the activity is in relation to (a)(ii), the activity shall only be carried out by a river scheme administrator, or the land drainage scheme administrator, or its contractor.

- (c) Where the removal of trees from the beds of a stream, river or lake is being undertaken, trees shall only be excavated from the bed of a surface water body if they are causing obstruction and bank erosion, otherwise trees shall be cut and lifted from the bed.
- (d) Where the activity is the cutting of weeds, the cut weed material shall be removed from the stream, river or lake where practicable.
- (e) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October, except where the activity is the use of a weed-cutter boat on a Land Drainage Canal.
- (f) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May to 30 August.
- (g) Where the activity is the use of a weed-cutter boat on a Land Drainage Canal during the exclusion period in condition (e), vegetation on the margins in the Land Drainage Canal shall only be trimmed, and not removed. For the avoidance of doubt, this condition does not restrict the removal of vegetation from the channel of the Land Drainage Canal during the exclusion period in condition (e).
- (h) No works shall be carried out in tidal reaches of rivers and streams between 1 March and 31 May.
- (i) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (j) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (k) The activity shall not prevent the passage of migrating fish.
- (l) The activity shall not compromise the structural integrity or use of any authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (m) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (n) The activity shall not alter the natural course of the river.
- (o) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (p) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (q) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (r) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

Advisory Note

- 1 The removal of vegetation from a wetland is addressed in the Wetlands Section of this regional plan.
- 2 The removal of areas of significant indigenous vegetation may also be controlled by provisions in district plans.

- 3 For any removal of plants from the bed of a section of a river within a River Scheme (as defined in Schedule 5), the approval of the Regional Council is also required with regard to their functions under the Soil Conservation and Rivers Control Act 1941.
- 4 Regional Council staff are available to advise on the removal of wilding willows.

Explanation/Intent of Rule

It is intended that the majority of plant removal or disturbance from the beds of surface water bodies will comply with this rule rather than requiring a resource consent. This rule includes the removal of weeds and other vegetation clearance necessary for the maintenance of artificial watercourses created for hydroelectric power generation.

Discretionary Activities in the Beds of Streams, Rivers and Lakes

BW R36 (Rule 71)

Discretionary – Activity in the Beds of Streams, Rivers and Lakes

Unless provided for by another rule in this regional plan, the:

- 1 Use, erection, reconstruction, placement, alteration, extension, removal, or demolition of any structure or part of any structure in, on, under, or over the bed of a stream, river or lake,
- 2 Excavation, drilling, tunnelling or other disturbances to the bed of a stream, river or lake,
- 3 Introduction of planting of any plant or any part of any plant in, on, or under the bed of a stream, river or lake,
- 4 Disturbance, removal, damage or destruction of any plant or any part of any plant in, on, or under the bed of a stream, river or lake,
- 5 Deposition of any substance in, on, or under the bed of a stream, river or lake,
- 6 Reclamation or drainage of the bed of a stream, river or lake,

Is a discretionary activity.

Advisory Note

- 1 This rule does not apply to plantation forestry activities as these are regulated under the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of activities in the bed of a stream, river or lake on a case by case basis, where the activity is likely to cause more than minor effects. In relation to deposition of substances, this rule includes, but is not limited to, gravel storage, and the deposition of debris and tree trimmings. This rule also applies to existing reclamations that are not otherwise authorised. The consent duration for reclamations of the bed of a river, stream or lake is unlimited under section 123 of the Act.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions as appropriate to the type of activity:

<i>Objective</i>	<i>KT O4, KT O5, KT O6, IM O1, BW O1, BW O2, BW O4, BW O5, BW O7</i>
<i>Policy</i>	<i>KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, BW P1, BW P2, BW P3, BW P4, BW P7, BW P9, BW P10, BW P11, BW P13</i>
<i>Method</i>	<i>KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12, BW M5, BW M6, BW M9, BW M24</i>
<i>Schedule</i>	<i>1, 2, 3</i>

Stock in Surface Water Bodies

Issue

BW I6 (Issue 47) **The presence of stock in the beds of permanently flowing streams and rivers, lakes and wetlands can lead to adverse effects on the environment.**

Para 1 Adverse effects include:

- (a) Disturbance and erosion of the bed, bank and riparian margins of surface water bodies.
- (b) The degradation of water quality due to nutrients, pathogens and BOD from excrement, and increased sedimentation from disturbance and erosion. There is current concern about water-borne diseases, caused by micro-organisms such as bacteria and viruses present in faecal matter. Contaminated water affects both human and stock health.
- (c) Damage or destruction of aquatic habitats and aquatic vegetation.

Para 2 Controlled stock crossings on dairy farms are of particular concern as stock may cross a river or stream up to four times per day. The potential effects of stock presence in the beds of rivers, streams, lakes and wetlands are relative to the environmental sensitivity of the location.

Para 3 A contributing aspect to this issue is a lack of awareness by some landowners of the adverse effects that stock have on the beds and banks of surface water bodies, especially the cumulative effects of stock along the length of a water body.

<i>Objective</i>	<i>BW O8, BW O9, BW O10</i>
<i>Policy</i>	<i>BW P15 to BW P21</i>
<i>Method</i>	<i>IM M1, IM M3, IM M8, LM M18, IM M15, BW M33 to BW M39</i>
<i>Rule</i>	<i>BW R37, BW R38, BW R39, BW R40</i>
<i>Schedule</i>	<i>8</i>

Objectives

BW O8 (Objective 62) Prevent the presence of stock in the beds of the following surface water bodies:

- (a) The beds of the Rotorua Lakes and Ohau Channel
- (b) All rivers and streams with Natural State (River) water quality classification.

BW O9 (Objective 63) Encourage the exclusion of stock from:

- (a) Wetlands.

- (b) Streams and rivers:
 - (i) Where erosion problems are evident.
 - (ii) Listed in Schedule 1 of this regional plan.
 - (iii) Where water quality is degraded due to the effects of land use activities.
 - (iv) Where there are high contact recreation, food gathering or fishing values.
 - (v) In the catchment of the Rotorua Lakes, Tauranga or Ōhiwa Harbours.
 - (vi) With Water Supply water quality classification.

BR O10 (Objective 64) Stock presence in the beds of streams and rivers, including access for drinking water, is managed to avoid, remedy or mitigate adverse effects on the environment.

Policies

- BW P15 (Policy 112) To prevent the presence of stock from the beds of:
- (a) The Rotorua Lakes and Ohau Channel.
 - (b) Streams and rivers with Natural State (River) water quality classification.
- BW P16 (Policy 113) To require landowners to manage stock presence and access to surface water to avoid, remedy or mitigate adverse effects on:
- (a) The beds and banks of rivers and streams.
 - (b) Water quality.
 - (c) Aquatic habitats and significant indigenous vegetation in the beds of surface water bodies, recreation and food gathering sites.
 - (d) Downstream surface water abstractors.
 - (e) Wetlands.
- BW P17 (Policy 114) To take appropriate action where stock in the beds of surface water bodies are having adverse effects on the environment which are greater than the standards in BW R37 or BW R38.
- BW P18 (Policy 115) To raise landowner awareness about the adverse environmental effects of stock presence and crossings in the beds of surface water bodies, and appropriate management measures to avoid, remedy or mitigate the adverse effects.
- BW P19 (Policy 116) To provide financial assistance to landowners to implement measures to prevent stock access to streams, rivers, lakes and wetlands where there is benefit to the regional community.
- BW P20 (Policy 117) To prioritise the implementation of BW P18 and BW P19, and promotion and adoption of the Regional Council Environmental Programmes or Property Plans to exclude stock from the beds of streams, rivers and wetlands, in the following areas:
- (a) Wetlands on private land.
 - (b) Streams and rivers where:
 - (i) There are erosion problems in the beds and margins of streams and rivers.
 - (ii) There are high aquatic habitat or spawning values for indigenous species and trout, and listed in Schedule 1 of this regional plan.

- (iii) Water quality has been degraded due to the effects of land use activities.
- (iv) There are high contact recreation, food gathering or fishing values.
- (v) They are in the catchments of the Rotorua Lakes, Tauranga or Ōhiwa Harbours.
- (vi) The stream or river is classified as Water Supply, as shown on the Water Quality Classification map.

BW P21 (Policy 118) To promote the use of farm quality programmes, including sector-based quality assurance programmes, that avoid, remedy or mitigate the adverse effects of grazing and stock presence in the beds of surface water bodies.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

BW M33 (Method 233) Provide advice to landowners on appropriate methods to prevent stock access to rivers, streams and wetlands on a case by case basis in relation to the sensitivity of the environment, scale of adverse effects stock access is having at the site, and practicality and viability of solutions at the site.

BW M34 (Method 234) Promote and encourage the planning of farm and property subdivision configurations to avoid or reduce areas where fences cross rivers, streams and wetlands, and stock have access to surface water.

BW M35 (Method 235) Raise community awareness of:

- (a) The adverse effects that stock access to surface water bodies has on water quality, and the loss of private land through increased erosion.
- (b) Landowner responsibilities under section 17 of the Act in relation to avoiding, remedying or mitigating the adverse effects on the environment of stock presence in surface water bodies.
- (c) Health risks caused by faecal contamination of water by stock.
- (d) The benefits of preventing stock access to surface water bodies.
- (e) Stock management measures to avoid the need to cull stock in stream and rivers.

This may be carried out in conjunction with other resource management agencies, or organisations, where appropriate.

Cross-Reference Also refer to IM M1 and IM M3.

Advocacy

BW M36 (Method 236) Advocate city and district councils to contribute to funding programmes to assist landowners retire riparian areas, particularly:

- (a) In the catchments of lakes and Tauranga and Ohiwa harbours.
- (b) Upstream of municipal water supply intakes.
- (c) Around wetlands.

Works and Services Provided by the Regional Council

Cross-Reference

Refer to IM M8.

Regulatory Methods

Cross-Reference

Refer to LM M18 and BW R37, BW R38, BW R39, BW R40, BW R36

Matters Relevant to Resource Consent Applications and Processing

BW M37 (Method 237) In conjunction with relevant resource management agencies and stakeholder groups:

- (a) Assess the extent and effects of stock access to streams and rivers:
 - (i) Where erosion problems are evident.
 - (ii) Listed in Schedule 1 of this regional plan.
 - (iii) Where water quality is degraded due to the effects of land use activities.
 - (iv) Where there are high contact recreation, food gathering or fishing values.
 - (v) In the catchments of the Rotorua Lakes, Tauranga or Ōhiwa Harbours.
 - (vi) The stream or river is classified as Water Supply, as shown on the Water Quality Classification map.
- (b) Identify appropriate management approaches and actions for the areas listed in (a) by July 2009.
- (c) Make the information collected for this project available to the general public.

The results of the project may result in a change to this regional plan via a publicly notified plan change process in accordance with the Act.

BW M38 (Method 238) Use approved farm quality programmes, including sector-based quality assurance programmes, as one means of compliance with the requirements of this regional plan, where such programmes contain the following:

- (a) Management practices or processes to:
 - (i) Avoid, remedy or mitigate the adverse effects of stock access to surface water bodies.
 - (ii) Prevent the accelerated erosion of land, and the beds, banks and margins of surface water bodies.
 - (iii) Minimise adverse effects on water quality as a result of diffuse or point source discharges of nutrients, faecal matter or sediment.

- (iv) Avoid blocking, impeding or diverting the flow of water in a river or stream.
- (v) Avoid, remedy or mitigate adverse effects on aquatic habitats and significant indigenous aquatic vegetation in the beds of surface water bodies.
- (b) A process to monitor and review the implementation and environmental outcomes of the programme.

The Regional Council will assess sector-based quality assurance programmes against the requirements of this Method, and include a list of approved programmes in Schedule 8 of this regional plan via a plan change or variation process, as appropriate.

Note: Qualifying documents may include any sector Quality Assurance Programme or sector Landcare Manuals that individually or in combination constitute a Sustainable Management System that meets the criteria of BW M38.

BW M39 (Method 239) With regard to the individual circumstances, take appropriate enforcement action under the Act where there are adverse environmental effects resulting from stock presence or crossings in the beds of surface water bodies which are greater than the standards in BW R37 or BW R38.

Monitoring and Investigation of the Environment

Cross-Reference

Also refer to IM M15.

Rules

Grazing and Stock in the Beds of Surface Water Bodies

Advisory Note

- 1 For the avoidance of doubt, BW R37 to BW R40 do not apply to ephemeral flowpaths and artificial watercourses.

BW R37 (Rule 6)

Permitted – Controlled Stock Crossings of the Bed of a Stream or River

The disturbance of the bed of any permanently flowing river or stream by livestock resulting from a controlled stock crossing, that is not prohibited by BW R39, is a permitted activity subject to the following conditions:

- 1 Where the activity is in a river or stream in the catchment of the Rotorua Lakes, the activity shall be provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies.
- 2 Where the activity is in a river or stream where the water quality classification is Water Supply, the activity shall be provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies.
- 3 For any other river or stream not listed in BW R39, or 1 or 2 above, the activity shall comply with either 4 or 5 below:
- 4 The landowner implements, maintains and complies with an active Farm Quality Programme that addresses the adverse effects of stock in the beds of surface water bodies in a manner that complies with the provisions of this regional plan. A Farm Quality Programme can be any one of the following:
 - (a) An operative Environmental Programme or Property Plan; or

- (b) An operative Quality Assurance Programme with a robust environmental component that is operated by an appropriate sector of the farming industry that is listed in Schedule 8; or
- (c) A specific, operative environmental management plan for an area of land, where the plan is listed in Schedule 8.

Or

5 The activity complies with the following conditions:

- (a) Where the stock crossing occurs more than twice per week on any one stream or river, the stock crossing shall not occur:
 - (i) In a river or stream in the catchment of a Rotorua Lake after 1 July 2006.
 - (ii) In a river or stream in the catchment of Tauranga Harbour after the 1 July 2007.
 - (iii) In a river or stream in the catchment of Ohiwa Harbour after 1 July 2007.
 - (iv) In a stream or river with Aquatic Ecosystem (Bay of Plenty) water quality classification, as shown on the Water Quality Classification Map, that is not otherwise in the catchments specified in (i) to (iii), after 1 July 2010.
- (b) The stock crossing shall be made at, or near, right angles to the flow of water in the river or stream.
- (c) The stock crossing approach shall be on a shallow slope.
- (d) All practicable steps shall be taken to divert stormwater away from the stock crossing approach. This is to prevent stormwater from adjacent land and stock races from flowing directly into a stream or river via the stock crossing approach.
- (e) All practicable steps shall be taken to avoid, remedy or mitigate the increase of nutrient, urine or faecal matters in water from the stock crossing.
- (f) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during the stock crossing, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the stock crossing site.
- (g) The stock crossing shall not contaminate a bathing site listed in Schedule 10 in the period between 1 November and 30 April, inclusive.
- (h) The stock crossing shall not cause or induce erosion to the bed or banks of the surface water body.
- (i) Erosion includes:
 - (i) Instability of the banks or channel.
 - (ii) Scour to the bed of the river or stream.
 and results in the deposition or discharge of sediment in the river or stream.
- (j) The stock crossing shall not damage or destroy a wetland, or a whitebait spawning site identified in Schedule 1C.

Advisory Note

- 1 Landowners are advised to contact Land Resources staff at the Regional Council for further information about Environmental Programmes or Property Plans.
- 2 Stock grazing in an ephemeral flowpath is addressed by LM R17.
- 3 It should not be presumed that fencing is required to meet the conditions in 2 above.
- 4 The Regional Council staff and information sheets are available to advise on appropriate best management practices to achieve the conditions in 5.
- 5 The preferred option for crossing stock over a stream or river is to install a culvert or single-span bridge.
- 6 In relation to condition 5(d), the use of cut-off drains and diversion drains can be used to achieve the requirement.
- 7 In relation to condition 5(a);
 - (a) Where a stock crossing occurs less than twice per week on any one stream or river, the activity is permitted subject to conditions (a) to (i).
 - (b) Where a stock crossing occurs more than twice per week in the areas listed in (a)(i) to (iv), the activity is not permitted after the dates specified in the Rule. Until the specified dates, the activity is permitted subject to conditions (b) to (i).
 - (c) Where the stock crossing occurs more than twice per week outside the areas listed in (a)(i) to (iv), the activity is permitted subject to conditions (b) to (i).
- 8 Stock crossings that do not comply with BW R37, and are not prohibited activities under BW R39, are discretionary activities under BW R40.

Explanation/Intent of Rule

To control the adverse effects of stock crossings in the beds of flowing surface water bodies (including streams and rivers), while recognising that the provision of alternative stock crossings may not be practicable in some circumstances, the Regional Council will encourage landowners to retire and fence riparian areas, and install single span bridges or culverts through non-regulatory methods. This rule is a means of addressing the adverse effects of the activity. Any stock crossings that are not permitted by BW R37 or prohibited by BW R39 are discretionary under BW R40. Farm Quality Programmes listed in Schedule 8 comply with WQ M10. Refer to Flow Diagram BW 1 to assist reading of this rule.

BW R38 (Rule 7)**Permitted – Stock in the Bed of a River or Stream**

The disturbance of the bed of any permanently flowing river or stream by livestock, excluding controlled stock crossings addressed by BW R37 and stock access prohibited by BW R39, is a permitted activity subject to the following conditions:

- 1 Where the activity is in a river or stream in the catchment of the Rotorua Lakes, the activity shall be provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies.

- 2 Where the activity is in a river or stream where the water quality classification is Water Supply, the activity shall be provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies.
- 3 For any other river or stream not listed in BW R39, or 1 or 2 above, the activity shall comply with either 4 or 5 below:
- 4 The landowner implements, maintains and complies with an active Farm Quality Programme that addresses the adverse effects of stock in the beds of surface water bodies in a manner that complies with the provision of this regional plan. A Farm Quality Programme can be any one of the following:
 - (a) An operative Environmental Programme or Property Plan; or
 - (b) An operative Quality Assurance Programme with a robust environmental component that is operated by an appropriate sector of the farming industry that is listed in Schedule 8; or
 - (c) A specific, operative environmental management plan for an area of land, where the plan is listed in Schedule 8.

Or

- 5 The activity complies with the following conditions:
 - (a) All practicable steps shall be taken to avoid, remedy or mitigate the increase of nutrient, urine or faecal matters in water from the stock access to the surface water body.
 - (b) All practicable steps shall be taken to avoid, remedy or mitigate the release of sediment during the stock access, and no clearly discernible change in the visual clarity of the water shall occur beyond a distance of 100 metres downstream of the site where stock have access to the surface water body.
 - (c) The stock access shall not contaminate a bathing site listed in Schedule 10 in the period between 1 November and 30 April, inclusive.
 - (d) The stock access shall not cause or induce erosion to the bed or banks of the surface water body.
Erosion includes:
 - (i) Instability of the banks or channel.
 - (ii) Scour to the bed of the river or stream.
 and results in the deposition or discharge of sediment in the river or stream.
 - (e) The stock access shall not damage or destroy a wetland.
 - (f) The activity shall not damage or destroy:
 - (i) Significant aquatic indigenous vegetation, or
 - (ii) Aquatic habitat or spawning areas of indigenous species, or
 - (iii) Significant habitats of trout,
 as identified in Schedule 1.

Advisory Note

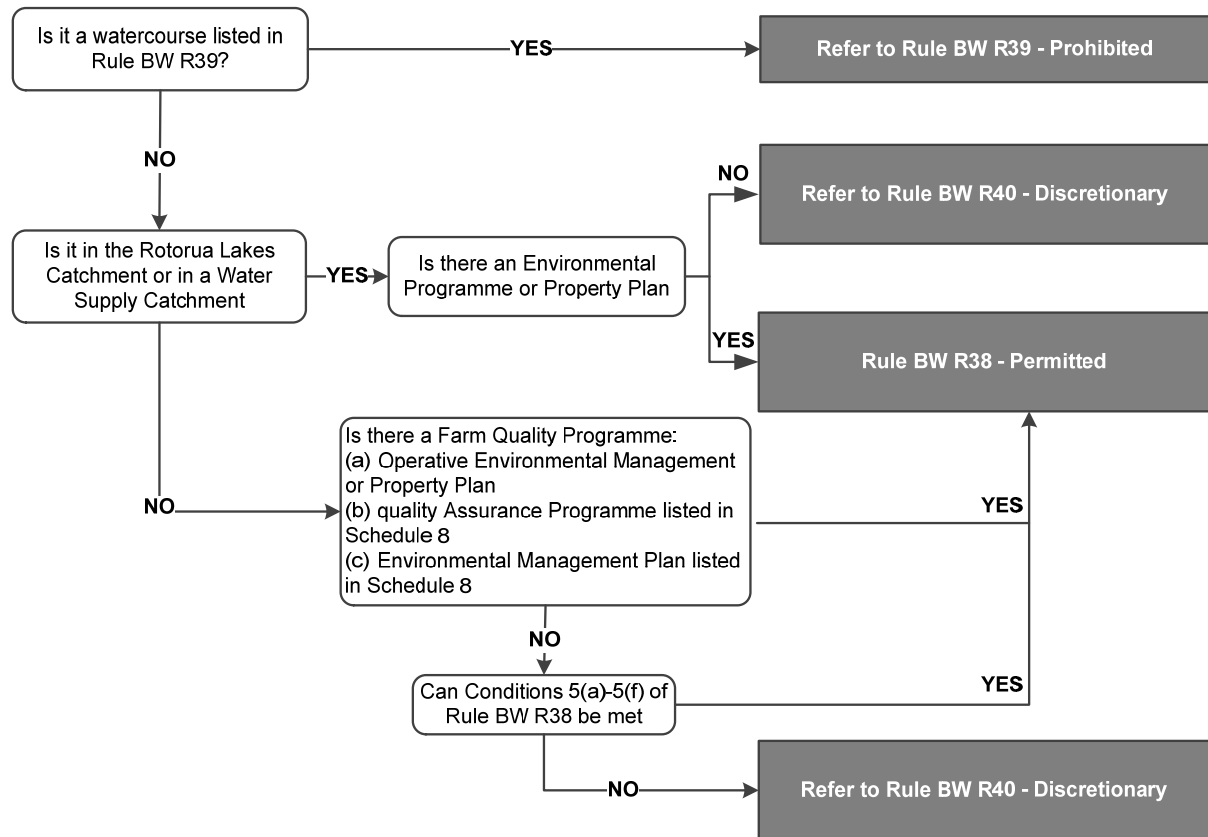
- 1 Landowners are advised to contact Land Resources staff at the Regional Council for further information about Environmental Programmes or Property Plans.
- 2 Stock grazing in an ephemeral flowpath is addressed by BW R40.

- 3 It should not be presumed that fencing is required to meet the conditions in 5 above.
- 4 The standing of stock in rivers and streams to cool animals is unlikely to comply with the conditions of this rule. Landowners are advised to use alternative stock management measures to prevent stock overheating, including provision of shade trees.
- 5 The Regional Council staff and information sheets are available to advise on appropriate best management practices to achieve the conditions in 5 above.
- 6 Any of the following measures are considered acceptable to achieve the retirement of riparian margins from stock grazing, however, the measures are given in order of preference:
 - (a) Permanent stock-proof fencing with adequate riparian margin distance, and appropriate riparian planting to intercept nutrients and sediment in overland flow from adjoining pastoral land. Different fence types are more appropriate for flood plain areas.
 - (b) Alternative land use, other than stock grazing, in riparian areas.
 - (c) Permanent fencing with adequate riparian margin distance that prevents stock access to streams, with no riparian planting.
 - (d) Temporary electric fences with adequate riparian margin distance, with no riparian planting, that are sufficient to contain the stock type being controlled. Temporary fences can be shifted, and reused in other areas where stock are grazing.
 - (e) Stock management practices that allow the light grazing of well-managed riparian areas, with stock excluded from the bed of a stream by a fence on the margin of the stream. Note: that it is preferable that long grass is retained adjacent to streams as to buffer surface runoff.

Explanation/Intent of Rule

To control the adverse effects of stock presence in the beds of flowing surface water bodies (including streams and rivers). The Regional Council will encourage landowners to protect and fence riparian areas, and install single span bridges or culverts through non-regulatory methods. This rule is a means of addressing the adverse effects of the activity. The disturbance of the bed of a river or stream by stock that is not permitted by BW R37 or BW R38, or prohibited by BW R39 is a discretionary activity under BW R40. Farm Quality Programmes listed in Schedule 8 comply with WQ M10. Refer to Flow Diagram BW 1 to assist reading of this rule.

Flow Diagram BW 1 – Stock in the Bed of a River or Stream



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

BW R39 (Rule 8)

Prohibited – Stock in the Beds of Rotorua Lakes and Natural State Rivers

The disturbance of the bed of a surface water body by stock, and associated discharge of contaminants (including sediment and faecal material), in:

- 1 Lakes Rotorua, Rotoiti, Rotoehu, Rotoma, Okataina, Okareka, Tikitapu, Rotokakahi, Tarawera, Okaro, Rotomahana, Rerewhakaaitu and Ohau Channel; or
- 2 A river or stream where the water quality classification is Natural State (River) (as shown on the Water Quality Classification map),

Is a prohibited activity from the date that this regional plan becomes operative.

Advisory Note

- 1 Stock presence in the Coastal Marine Area is prohibited by Rule 58 (14.2.4(K)) of the Operative Regional Coastal Environment Plan.

Explanation/Intent of Rule

To prevent the adverse effects of stock crossings, access and presence to surface water bodies where the receiving environment has been identified as of particular concern.

BW R40 (Rule 9)**Discretionary – Stock in the Beds of Surface Water bodies**

The disturbance of the bed of a surface water body by stock access or a stock crossing that is:

- 1 In a river or stream in the catchment of the Rotorua Lakes, and not provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies; or
- 2 In a river or stream where the water quality classification is Water Supply, and not provided for by a Regional Council Environmental Programme or Property Plan that addresses the adverse effects of stock in surface water bodies; or
- 3 Not permitted by BW R37 or BW R38;

and the activity is not otherwise prohibited by BW R39, is a discretionary activity.

Assessment Criteria

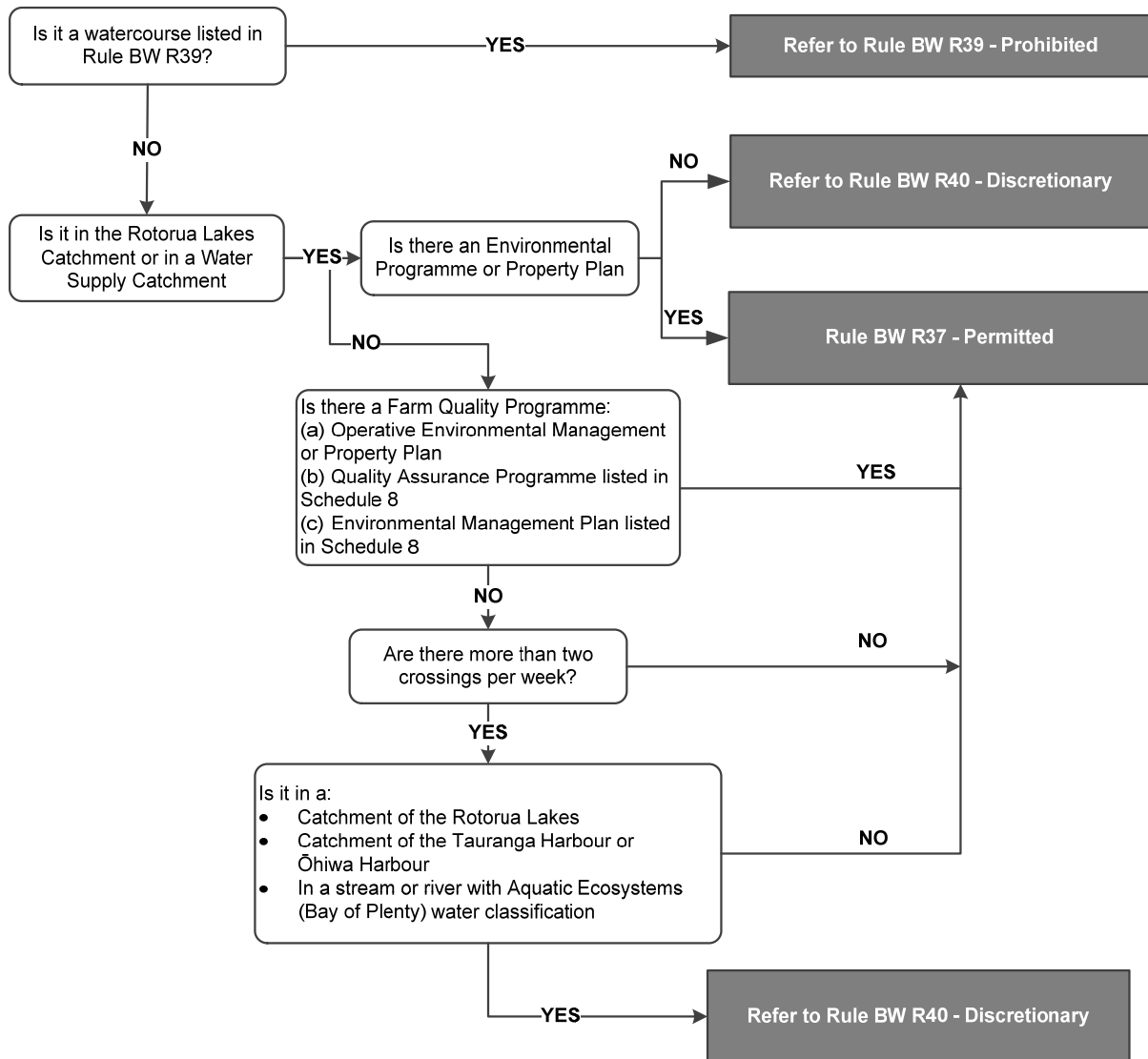
When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

Objective TH O1, RL O3, OH O1, BW O7, BW O8
Policy BW P2, BW P3, BW P15, BW P16
Method BW M35

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of bed disturbance activities on a case by case basis, where the activity is likely to cause more than minor effects, or there is a high risk to human health.

Flow Diagram BW 2 – Controlled Stock Crossings



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Gravel Extraction

Gravel Extraction is currently managed by the Operative Regional River Gravel Management Plan.

Contents

WT Wetlands	1
Issues	1
Objectives.....	3
Policies	4
Methods of Implementation	5
Rules.....	8

WL Wetlands

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

The provisions in this section cover wetlands in the following areas:

- 1 On land.
- 2 In the beds and margins of rivers and lakes. The provisions in this section take precedence over provisions in the Beds of Rivers and Lakes section when addressing wetlands in the beds of rivers and lakes.
- 3 Coastal wetlands above mean high water springs.
- 4 Geothermal wetlands (note that the provisions in the Geothermal Resources section of this regional plan and the provisions of the Rotorua Geothermal Regional Plan will also apply when addressing the adverse effects of the use and development of geothermal resources on geothermal ecologies).

Any wetlands below mean high water springs, including estuarine wetlands in Ohiwa and Tauranga harbours, are addressed by provisions in the Bay of Plenty Regional Coastal Environment Plan. Also refer to the definition of 'wetland' in the Definition of Terms to clarify what areas are specifically excluded from the provisions in this section of the regional plan.

Note: Since this regional plan became operative, the Regional Council has developed nine Water Management Areas, or WMAs to assist with meeting the requirements of the National Policy Statement for Freshwater Management. Any reference to a WMA in the Wetlands section of this regional plan is to a Wetland Management Agreement, rather than a Water Management Area.

Wetlands

Issues

WL 11 (Issue 54) **The vast majority of freshwater wetlands in the Bay of Plenty have been lost due to land development.**

There is concern that only a very small area of original freshwater wetlands remain in the Bay of Plenty Region. Wetlands are an important, but diminishing resource in the Bay of Plenty. Once covering extensive areas throughout the country, wetlands are now some of New Zealand's rarest and most at risk ecosystems. Approximately 3% of freshwater wetlands remain in the Bay of Plenty (41,000 hectares from estimate of vegetative cover 1840, compared to 1,000 hectares in 1996 land cover information). Historically, the drainage of wetlands occurred with public encouragement. While a few wetlands have been only slightly modified, the majority of wetlands in the Bay of Plenty have been severely modified and are highly degraded.

<i>Objective</i>	WL O1, WL O2, WL O3, WL O4
<i>Policy</i>	WL P1, WL P2, WL P3, WL P4, WL P5, WL P6, WL P7, WL P8, WL P9, WL P10, WL P11, WL P12
<i>Method</i>	LM M18, IM M15, BW M12, BW M13, BW M14, WL M1, WL M2, WL M3, WL M4, WL M5, WL M6, WL M7, WL M8, WL M9, WL M10, WL M11, WL M12, WL M13, WL M14, WL M15, WL M16, WL M17, WL M18, WL M19, WL M20
<i>Rule</i>	LM R1, LM R7, WQ R16, WQ R18, BW R34, WL R2, WL R3, WL R5, WL R9

WL I2 (Issue 55) **Wetland values can be damaged or destroyed as a result of inappropriate use and development activities.**

The important values of wetlands are:

- (a) Maori cultural uses, including traditional food sources and fisheries, paru (mud dye), urupa, weaving resources, and mahinga kai.
- (b) Aquatic and semi-terrestrial habitats for indigenous flora and fauna, including rare and endangered indigenous species. Even small wetlands, such as raupo swamps, often provide habitats for indigenous fauna.
- (c) Natural character and landscape values.
- (d) Intrinsic values.
- (e) Water quality improvement due to the filtering of nutrients and sediments by plants in the wetland, and other natural biological processes.
- (f) Water quantity control via flood mitigation by the detention of water and its gradual release during dry periods.
- (g) Denitrification of water. Wetlands in the catchments, and on the lakeshore of the Rotorua lakes, are particularly important for maintaining or improving lake water quality by removing nitrogen present in lake water or inflowing streams.
- (h) Unique and rare geothermal wetland ecologies, and habitats for indigenous flora and fauna species adapted to geothermal areas.
- (i) Amenity values.

Objective WL O1, WL O2, WL O3, WL O4

Policy WL P1, WL P2, WL P3, WL P4, WL P5, WL P6, WL P7, WL P8, WL P9, WL P10

Method LM M18, IM M15, BW M12, BW M13, BW M14, WL M1, WL M2, WL M3, WL M4, WL M5, WL M6, WL M7, WL M8, WL M9, WL M10, WL M11, WL M12, WL M13, WL M14, WL M15, WL M16, WL M17, WL M18, WL M19, WL M20

Rule LM R1, LM R7, WQ R16, WQ R18, BW R34, WL R2, WL R3, WL R5, WL R9

WL I3 (Issue 56) **There is a lack of community understanding of the scarcity, values, and vulnerability of wetlands.**

Wetland modification often occurs due to a lack of recognition of the high environmental and economic values of wetlands and the importance of wetlands, including small wetlands and seeps, for water quality, habitat purposes, and flood detention values.

Objective WL O1, WL O2

Policy WL P1, WL P2, WL P3, WL P4, WL P5, WL P6

Method LM M18, IM M15, BW M12, BW M13, BW M14, WL M1, WL M2, WL M3, WL M4, WL M5, WL M6, WL M7, WL M8, WL M9, WL M10, WL M11, WL M12, WL M13, WL M14, WL M15, WL M16, WL M17, WL M18, WL M19, WL M20

Rule WL R2, WL R9

WL I4 (Issue 57) **Wetlands in the Bay of Plenty remain under threat from the adverse effects of inappropriate land use and development activities.**

Some wetlands continue to be adversely affected by use and development activities.

Adverse effects from the modification of wetlands may include the following:

- (a) Changes to water quality in the wetland, and the water filtering values of the wetland.
- (b) Alteration of water tables and flows. In particular, the lowering of water tables can degrade wetlands.
- (c) Smothering by sediment.
- (d) Damage, destruction or alteration of the ecological or cultural values, or natural character of the wetland.

- (e) Isolation and fragmentation.
 - (f) Changes to the soil conservation values of the wetland.
- Factors that can impair the functions and values of wetlands in the Bay of Plenty include:

- (a) Inappropriate land use management and development.
- (b) Drainage associated with the pressure to develop economically productive land.
- (c) Grazing, pugging and wallowing by stock.
- (d) Built structures.
- (e) A lack of ongoing maintenance.
- (f) Animal and plant pests. Invasive weeds, such as parrot feather, are evident in some of the wetlands in the Bay of Plenty.
- (g) Burning of vegetation.
- (h) Discharges of contaminants, including diffuse discharges of nutrients and sediment from land use activities.
- (i) Removal of biomass.
- (j) Lack of public understanding of the significance of the loss of wetlands.

<i>Objective</i>	WL O1, WL O2, WL O3, WL O4
<i>Policy</i>	WL P1, WL P2, WL P3, WL P4, WL P5, WL P6, WL P7, WL P8, WL P9, WL P10
<i>Method</i>	LM M18, IM M15, BW M12, BW M13, BW M14, WL M1, WL M2, WL M3, WL M4, WL M5, WL M6, WL M7, WL M8, WL M9, WL M10, WL M11, WL M12, WL M13, WL M14, WL M15, WL M16, WL M17, WL 18, WL M19, WL M20
<i>Rule</i>	LM R1, LM R7, WQ R16, WQ R18, BW R34, WL R2, WL R3, WL R5, WL R9

WL 15 (Issue 58)

The artificial maintenance of water levels may be necessary to maintain or enhance wetlands, but this may have adverse effects on adjacent landowners.

The artificial maintenance of water levels (including damming) is often necessary to maintain a wetland. In the Bay of Plenty there are particular problems where wetland hydrology has been modified by flood control and land drainage schemes. Many wetlands are perched, or have been cut off from their natural water supply, including Kaituna Wetland, Tumurau Lagoon, and Matata Lagoon. Conflict may occur where it is necessary to artificially maintain water levels in a wetland, where such actions cause raised groundwater levels and which cause flooding problems in adjacent properties. Conflict between the maintenance of water levels in wetland and adjoining land use needs to be resolved on a case by case basis.

<i>Objective</i>	WL O1, WL O2
<i>Policy</i>	WL P8
<i>Method</i>	WL M16, WL M22
<i>Rule</i>	WL R2, WL R9

Objectives

- WL O1 (Objective 73) The preservation of the remaining wetlands in the Bay of Plenty.
- WL O2 (Objective 74) The enhancement of the values and functions of degraded wetlands where enhancement is viable.
- WL O3 (Objective 75) Creation of new wetland habitats where appropriate and practicable.
- WL O4 (Objective 76) The adverse effects of any necessary maintenance in wetlands, or sustainable use of wetlands, on the ecological values, water quality, water quantity, or natural character of the wetland are avoided, remedied or mitigated.

Cross-Reference

Also refer to IM O1 and Objective 46 of this regional plan.

Policies

WL P1 (Policy 133)	To protect existing wetlands, including small wetlands, to maintain their natural functions.
WL P2 (Policy 134)	To maintain or enhance migratory pathways to wetlands, and ecological sequences that include wetlands.
WL P3 (Policy 135)	<p>To maintain or enhance the values of existing wetlands by encouraging landowners and the community to:</p> <ul style="list-style-type: none"> (a) Maintain or improve water quality in wetlands, while recognising that wetlands themselves are natural water filtering systems. (b) Maintain or improve the hydrological regime, including enhancing water quantity and flows, providing for flood retention, and fluctuations of water levels. (c) Maintain or improve soil conservation values. (d) Maintain or improve aquatic and terrestrial indigenous biodiversity of flora and fauna. (e) Maintain or enhance cultural values. (f) Maintain or enhance amenity values. <p>These are to be applied relative to the type of wetland and specific values of individual wetlands.</p>
WL P4 (Policy 136)	<p>To prioritise action to enhance wetlands where:</p> <ul style="list-style-type: none"> (a) The wetland has significant heritage values, including ecological values. (b) The hydrology is sufficient to sustain wetland species and habitat.
WL P5 (Policy 137)	To establish and maintain an inventory of all wetlands and their values in the region.
WL P6 (Policy 138)	<p>To raise community awareness about:</p> <ul style="list-style-type: none"> (a) Wetlands and their values. (b) Appropriate land use around wetlands. This includes appropriate land use on areas adjacent to wetlands where water quantity in the wetland is artificially maintained, and groundwater levels in adjacent land are increased. (c) Appropriate maintenance of wetlands to enhance habitats of indigenous flora and fauna.
WL P7 (Policy 139)	To encourage and promote the creation of new wetland habitats in appropriate locations.
WL P8 (Policy 140)	To determine water levels for those wetlands where water quantity is artificially managed, and establish water levels at an appropriate level that provides for the natural functions of the wetland and has regard to the concerns of adjacent landowners.
WL P9 (Policy 141)	To allow for the removal of vegetation, including weeds, from wetlands in hydroelectric generation lakes in recognition that it is necessary to ensure the hydroelectric generation operations are not impeded. The adverse effects of these maintenance activities on the values of the wetlands are to be avoided, remedied or mitigated.
WL P10 (Policy 142)	To recognise and provide for the sustainable use of wetlands, including the use of wetlands for customary practices by tangata whenua. Sustainable use means the use of resources within a wetland at a rate or in a manner that does not damage or destroy the water quality, water quantity, soil conservation, natural character, habitat values of indigenous flora and fauna, or cultural values of the wetland.
WL P11 (Policy 143)	To allow for the removal or disturbance of low-growing indigenous wetland vegetation (such as flax, raupo and sedges) to maintain existing amenity values in accordance with an approved management document, plan or

	agreement.
WL P12 (Policy 144)	To assess the appropriateness of the creation of new open water areas within a natural wetland on a case by case basis in relation to the adverse or beneficial effects on: <ul style="list-style-type: none"> (a) Aquatic ecosystems. (b) Indigenous biodiversity. (c) Significant indigenous vegetation and the significant habitats of indigenous fauna. (d) Soil conservation. (e) Water quality. (f) Water quantity. (g) Affected parties.
<u>Cross-Reference</u>	Also refer to IM P1, IM P2, IM P4, IM P5, WQ P34.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

WL M1 (Method 254)	Work directly with landowners and the community to raise awareness of wetland values and appropriate land use around wetlands.
WL M2 (Method 255)	Promote the environmental and economic benefits of protecting wetlands to landowners.
WL M3 (Method 256)	Encourage, as part of wetland enhancement activities, the use of suitable indigenous wetland plant species that are appropriate to the type of wetland, and in particular the use of eco-sourced plant stock where available.
WL M4 (Method 257)	Encourage and support wetland care groups.
WL M5 (Method 258)	Promote the use of covenants and other voluntary agreements to help protect, maintain or enhance wetlands on private land.
WL M6 (Method 259)	Use promotional opportunities such as World Wetlands day to raise community awareness.
WL M7 (Method 260)	Encourage, promote and facilitate appropriate management of wetlands and their margins to: <ul style="list-style-type: none"> (a) Control animal and plant pests. (b) Prevent the adverse effects of stock grazing in wetlands. (c) Fence or otherwise protect wetlands.
WL M8 (Method 261)	Encourage landowners to enhance wetlands by: <ul style="list-style-type: none"> (a) Preparing Wetland Management Agreements on behalf of landowners to enable minor enhancement works to be permitted under WL R2 Wetland Management Agreements that: <ul style="list-style-type: none"> (i) Provide advice to landowners on wetland enhancement. (ii) Detail actions that are consistent with the Wetland Enhancement Goals in WL P3, and appropriate to the individual wetland. (iii) Include a monitoring agreement that allows the Regional Council or its contractor to enter the property to assess enhancement works. <p>Note: Funding for enhancement works is available through the Regional Council's Environmental Enhancement Fund or</p>

Environment Programmes. Refer to WL M18(c).

- (b) Assisting with the preparation of an Assessment of Environmental Effects where it is required as part of a resource consent application for wetland enhancement under WL R3 and the enhancement works are consistent with WL P3. **Note:** minor wetland enhancement works are permitted under WL R2.
- (c) Waiving resource consent application fees for wetland enhancement works that require a consent under WL R3 where the enhancement works are consistent with WL P3.

Cross-Reference

Also refer to IM M3.

- WL M9 (Method 262) Maintain a register for areas that are excluded from the definition of 'wetland' under this regional plan, where the information is voluntarily provided by landowners or resource users.

Working with Other Resource Management Agencies and the Community

- WL M10 (Method 263) Continue to participate in the Bay of Plenty Wetland Forum with the Department of Conservation, Fish and Game NZ (Eastern Region), constituent city and district councils, iwi and non-governmental organisations.
- WL M11 (Method 264) Work in conjunction with the city council, district councils, the Department of Conservation, tangata whenua, Fish and Game NZ, and the community to establish and maintain a regional wetlands inventory.
- WL M12 (Method 265) In conjunction with relevant resource management agencies, develop a guideline on the creation of wetlands to advise the community on:

- (a) Structures or other methods of ensuring sufficient water levels to create wetland areas,
- (b) Appropriate plants and planting regimes,
- (c) Maintenance, including plant, animal and insect pest control, and
- (d) Appropriate locations for wetlands.

- WL M13 (Method 266) Work in conjunction with the city council, district councils, the Department of Conservation, tangata whenua, Fish and Game NZ, and the community to investigate and implement appropriate mechanisms to protect wetlands from inappropriate land use and development, including modification of natural hydrological regimes, within the catchment of the wetland.
- WL M14 (Method 267) In conjunction with relevant resource management agencies, develop a guideline on the appropriate maintenance and enhancement of wetlands.
- WL M15 (Method 268) Develop active partnerships with other resource management agencies, organisations and community groups to enhance wetlands.

Cross-Reference

Also refer to BW M12 and BW M13.

Works and Services Provided by the Regional Council

- WL M16 (Method 269) Contribute engineering expertise to design and construct water level and flow control structures on wetlands where the hydrology has been adversely affected by flood control and land drainage schemes.
- WL M17 (Method 270) Continue to maintain, enhance or reinstate wetlands, where practicable, in river scheme and land drainage scheme maintenance areas that are administered by the Regional Council.

- WL M18 (Method 271) Actively participate in the creation, maintenance, enhancement and protection of wetlands by:
- (a) Considering land purchase or lease for the purposes of maintaining or enhancing the soil conservation, water quality or water quantity values of a wetland.
 - (b) Working proactively with land users and developers to avoid adverse effects on wetlands from land use activities, and to protect wetlands. This may include the provision of advice.
 - (c) Funding wetland enhancement works on private land through the Environmental Programmes system, where those works are consistent with WL P3.

Cross-Reference

Also refer to IM M8.

Regulatory Methods

- WL M19 (Method 272) With regard to the individual circumstances, take appropriate enforcement action under the Act where the grazing of stock in a wetland has resulted in the modification of the wetland to the extent that there are more than minor adverse environmental effects on the water quality, water quantity or soil conservation values of the wetland. For wetlands in the bed of a river or lake, enforcement action may also be taken where stock have caused more than minor adverse effects on aquatic habitats or vegetation.

- WL M20 (Method 273) Allow the following activities:
- (a) Wetland enhancement that is consistent with WL P3, and subject to a Wetland Management Agreement, a Regional Council Environmental Programme, or a reserves management plan.
 - (b) The sustainable use of wetlands that is consistent with WL P10, and is undertaken either in accordance with tikanga Māori, or to a Wetland Management Agreement, a Regional Council Environmental Programme, or a reserves management plan.

Cross-Reference

Also refer to LM M17, LM M18, LM M19 and:

- WL M21 (Method 274) Where a resource consent application is received under WL R3 for the creation of new open water areas, assess the environmental effects and benefits of the proposed activity on the values of the wetland (as stated in WL P12).

*Matters Relevant to Resource Consent Applications and Processing*Cross-Reference

Also refer to IM M10.

Monitoring and Investigation of the Environment

- WL M22 (Method 275) Determine appropriate water levels, flows and fluctuations necessary to maintain aquatic ecosystems in significant wetlands where water quantity is artificially managed. Such water levels will be determined in conjunction with the owner or management agency of the wetland, and in consultation with adjacent landowners. The water levels will then be used in resource consents for the artificial control of water levels in wetlands, or included in this regional plan via a plan change process, as appropriate.

Cross-Reference

Also refer to IM M15 and BW M14.

Rules

Advisory Note

- 1 The creation of wetlands is provided for by LM R1 (earthworks), LM R7 (vegetation disturbance on land), WQ R16 (damming of surface runoff), WQ R18 (damming of water in the bed of a river or stream), and BW R34 (introduction of plants into the bed of a river, stream or lake). The planting of vegetation on land, including land surrounding a wetland is not controlled by this regional plan.
- 2 Rules in this section of the regional plan do not supersede resource consents for activities in wetlands where the consent has already been obtained.
- 3 Rules in this section of the regional plan apply to geothermal wetlands, including geothermal wetlands in the Rotorua field.
- 4 Refer to the definition of 'wetland' in the Definition of Terms to clarify the application of rules in this section of the regional plan. For the avoidance of doubt, the term 'wetland' applies to water bodies, and intermittently wet areas. The rules in this section do not apply to dry land that does not support a natural ecosystem of plants and animals that are adapted to wet conditions, and occurs within an area commonly referred to in its entirety as a wetland.

WL R1 (Rule 78) Permitted – Introduction of Indigenous Plants into a Wetland

The introduction of indigenous plant species into a wetland for the purposes of wetland enhancement is a permitted activity subject to the following conditions;

- (a) Only indigenous plant species that naturally occur (or would have likely to have naturally occurred in the past) at that locality shall be introduced into the wetland.
- (b) The disturbance of the wetland, including damage to indigenous vegetation, shall be no more than minor.

Advisory Note

- 1 Advice on appropriate indigenous plant species suitable for wetland enhancement is available from the Regional Council.
- 2 Natural re-vegetation by local wetland species is the preferred approach to enhance wetlands.
- 3 The planting of the margin of the wetland is not controlled by this regional plan. Contact the Regional Council staff for assistance to determine the boundary between the margin and the wetland. the Regional Council encourages the use of indigenous species on wetland margin, especially if the margin is already vegetated by such species.
- 4 The Regional Council can provide information on the indigenous plant species that naturally occur in different localities in the Bay of Plenty.

Explanation/Intent of Rule

To allow minor works necessary for the enhancement of a wetland. The planting of wetlands is a major part of wetland enhancement. Natural re-vegetation of wetlands after pest plant removal is also an appropriate means of enhancing a wetland.

WL R2 (Rule 79) Permitted – Wetland Maintenance and Enhancement Under a Registered Management Document

Any modification of a wetland for the purposes of wetland maintenance or enhancement where:

- 1 The activity is undertaken in accordance with:
 - (a) A Regional Council Environmental Programme that specifically includes the wetland works, or
 - (b) A Wetland Management Agreement with the Regional Council, or
 - (c) A reserves management plan prepared by a district or city council, the Department of Conservation, the Regional Council, or Fish and Game NZ; or a Conservation Management Strategy prepared by the Department of Conservation.

And

- 2 The activity is consistent with WL P3; and
- 3 The activity is restricted to the activities in (a) to (i) inclusive:
 - (a) Where the activity is the removal of exotic plant species and rubbish using machinery, and the activity is not otherwise permitted by WL R6, the activity shall comply with (i) and (ii):
 - (i) The machinery shall be kept out of the bed of the wetland where practicable; and
 - (ii) The disturbance of the wetland shall be limited to the extent necessary to carry out the activity.
 - (b) Where the activity is the construction and use of structures, the structures shall be for the purpose of improving amenity values, or providing access to a wetland. This includes, but is not limited to, boardwalks within a wetland. **Note:** Mai mai are addressed by BW R26.
 - (c) Where the activity is the diversion of water within a wetland, the activity shall not cause flooding or ponding on any land or property owned or occupied by another person.
 - (d) Where the activity is the damming of water within a wetland, the activity shall comply with (i) to (xiii) inclusive:
 - (i) The wetland is not located in a stream or river.
 - (ii) The dam shall not be located within an Urban Area or Settlement or within one (1) kilometre upstream of an Urban Area or Settlement.
 - (iii) The dam shall not impound more than 10,000 m³ of water and the lowest point of the dam crest does not exceed 1.5 metres vertical height relative to the land where the dam is sited as measured from the centre line of the dam structure.
 - (iv) The dam shall be designed, constructed and maintained to ensure that its structural integrity is not compromised, and incorporates a spillway with a 10% AEP (1 in 10 return) event flood design standard, and erosion protection devices, to safely return surplus water to land or water where the dam is sited.
 - (v) The activity does not cause flooding or ponding on any land or property owned or occupied by another person.
 - (vi) The dam shall not cause or induce erosion of the bed of banks of any surface water body, where the erosion is persistent or requires active erosion control measures to bring it under control. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
 - (vii) All machinery shall be kept out of the bed of the wetland where practicable.
 - (viii) The disturbance of the wetland shall be limited to the extent necessary to carry out the activity.
 - (ix) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.

- (x) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (xi) The dam shall at all times be maintained in a sound condition.
- (xii) Approaches and abutments shall be stabilised and appropriate water controls installed, to protect against erosion.
- (xiii) Following the completion of construction, all excess construction materials and equipment shall be removed from the bed of the stream, river or lake.
- (e) Where the activity is the maintenance of water levels within a wetland, the activity shall not cause flooding or ponding on any land property owned or occupied by another person.
- (f) Where the activity is the removal or trimming of low-growing indigenous wetland vegetation (such as flax, raupo and sedges), the activity shall be for the maintenance of existing, or previously agreed, open water areas, as specified in a management document under 1(a), (b) or (c). This does not apply to the creation of new open water areas.
- (g) Where the activity is the discharge of aquatic herbicide for the purpose of removing low-growing indigenous wetland vegetation (such as flax, raupo and sedges), the activity shall be for the maintenance of existing, or previously agreed, open water areas, as specified in a management document under 1(a), (b) or (c), where the activity complies with DW R1(b) to (h) inclusive. This does not apply to the creation of new open water areas.
- (h) Where the activity is the removal of silt necessary for the maintenance or enhancement of a wetland, the activity shall comply with (i) and (ii):
 - (i) All machinery shall be kept out of the bed of the wetland where practicable.
 - (ii) The disturbance of the wetland shall be limited to the extent necessary to carry out the activity.
- (i) Where the activity is the planting of exotic plant species in a wetland the activity shall comply with (i) to (vi) inclusive:
 - (i) The plant species is non-invasive, and not listed in the Bay of Plenty Pest Management Strategy 2003-2008; and
 - (ii) The plant species will not damage the existing biodiversity values of the wetland; and
 - (iii) The planted exotic species will not form the dominant vegetation type in the wetland; and
 - (iv) The wetland is not in the bed of a river, stream or lake except where the activity is otherwise permitted by BW R34; and
 - (v) The wetland is not a publicly owned reserve area; and
 - (vi) The wetland has not been identified for indigenous biodiversity enhancement with the landowner.

Is a permitted activity.

Advisory Note

- 1 Wetland Management Agreements are completed by landowners in partnership with a Regional Council Land Management officer. Templates for Wetland Management Agreements are available from the Regional Council, or on Council's website (www.boprc.govt.nz). Refer to the Explanation/Principal Reasons for Wetlands Provisions in Appendix 1 for more information on Wetland Management Agreements.
- 2 In relation to (i), the Regional Council encourages the use of suitable indigenous wetland plant species for wetland enhancement works (refer to WL M3). Wetland enhancement plantings should avoid the use of exotic plant species that will shade out existing indigenous plant species, or dry the wetland.

Explanation/Intent of Rule

To allow minor works necessary for the enhancement of a wetland without the need for a resource consent. While retaining some overview of the process to ensure the enhancement works are appropriate to the type and values of the wetland. This includes works to protect, restore, maintain, enhance or improve the existing indigenous ecosystem values of a wetland. Refer to IM M8 for a description of Environmental Programmes, and WL M8 for a description of Wetland Management Agreements. Landowners are encouraged to contact the Regional Council for advice and assistance with wetland enhancement works.

WL R3 (Rule 80) Permitted – Sustainable Use of Wetlands

The modification of a wetland for the purposes of sustainable use of the wetland, where the use is:

- 1 Harvesting or sustainable use of wetland resources that is undertaken in accordance with;
 - (a) A Regional Council Environmental Programme that specifically includes the sustainable use of the wetland, or
 - (b) A Wetland Management Agreement, or
 - (c) A reserves management plan prepared by a district or city council, the Department of Conservation, or Fish and Game NZ.
- Or
- 2 Maori customary use, including, but not limited to raranga, rongoa, and mahinga kai, where the activity is undertaken according to tikanga Maori;

Is a permitted activity.

Explanation/Intent of Rule

To allow the sustainable use of wetlands, including for Maori customary uses. This is consistent with WL P10 and the Ramsar Convention on wetlands. This rule does not allow the use of privately owned wetlands without the permission of the owner of the wetland.

WL R4 (Rule 81) Permitted - Maintenance or Enhancement of Certain Artificial Water Bodies

The maintenance or enhancement of:

- 1 An artificial water body that is not in the bed of a lake, river, or stream; and is not a degraded natural wetland that has been modified; or
- 2 A 'wetland' that is otherwise excluded from the definition of wetland in this regional plan (refer to Definition of Terms);

Is a permitted activity, except where the activity is otherwise subject to:

- (a) DW R1 (permitted – discharge of aquatic herbicide over water for weed control);
- (b) DW R12 (permitted – application of agrichemicals to land); or
- (c) WQ R16 (permitted – damming of surface runoff water).

Explanation/Intent of Rule

To clarify the intent of this regional plan, which is to promote maintenance or enhancement activities in water bodies that are not considered 'wetland' under this regional plan. There are three other rules in the regional plan that are relevant to specific maintenance and enhancement activities. Compliance with DW R1, DW R12 or WQ R16 is required where relevant.

WL R5 (Rule 82) Permitted – Maintenance of Wetlands in Water bodies created for Hydroelectric Generation, and Maintenance of Network Utilities and Structures associated with hydroelectric power schemes

The removal of weeds and other vegetation clearance within a wetland that is necessary for:

- 1 The maintenance of network utilities and structures associated with a hydroelectric power scheme: or
- 2 The maintenance of wetlands in water bodies created for hydroelectric generation;

Is a permitted activity subject to the following conditions:

- (a) The activity shall not cause or induce erosion of the bed or banks or any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (b) The activity shall not prevent in the passage of migrating fish.
- (c) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (d) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (e) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (f) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.
- (g) Where the removal of trees from the wetland is being undertaken, trees shall only be excavated from the wetland if they are causing obstruction or bank erosion, otherwise trees shall be cut and lifted from the wetland.
- (h) Where the activity is the cutting of weeds, the cut weed material shall be removed from the wetland.
- (i) The removal or trimming of vegetation in a wetland for the maintenance of network utilities and structures associated with a hydroelectric power scheme shall only be undertaken where vegetation is posing a threat to the integrity of the utility or structure, or is likely to cause arcing from existing facilities.

Explanation/Principal Reasons

To provide for the ongoing maintenance of wetlands that have formed on the margins of artificial lakes as a consequence of hydroelectric generation dams, and the maintenance of existing network utilities and structures associated with a hydroelectric power scheme where they traverse wetlands.

WL R6 (Rule 83) Permitted – Removal of Exotic Vegetation from a Wetland by Hand or by Machinery

The removal of exotic vegetation from a wetland for the purposes of wetland enhancement, where the removal is by hand or by machinery, is a permitted activity subject to the following conditions;

- (a) Only exotic plant species (including pest plants and weeds) shall be removed or destroyed.
- (b) The activity shall not cause or induce ongoing erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (c) Where non hand-held machinery is used to remove vegetation, the machinery shall not be located within the wetland. Nothing in this rule prevents the use of cables and associated fixtures attached to machinery located outside the wetland, or the use of hand-held machinery in the wetland.

- (d) The disturbance of the wetland, including damage to indigenous vegetation, shall be no more than minor in scale, and temporary in duration.
- (e) Where tree species that re-grow from cut material (including, but not limited to willows and poplars) are to be removed, the tree is to be cut down, and removed from the wetland. Nothing in this rule prevents the use of alternative tree control methods listed in Advisory Note 4.

Advisory Note

- 1 Advice on the appropriate removal of pest plants is available from the Regional Council.
- 2 The removal of pest plants from the margin of the wetland is not controlled by this regional plan. Contact Regional Council staff for assistance to determine the boundary between the margin and the wetland.
- 3 In relation to condition (e), it is necessary to remove cuttings of tree species that re-grow from cut material where these cuttings will regenerate if left within the wetland.
- 4 Methods for the removal of exotic vegetation from wetlands include injection of herbicide into standing trees, total removal, cutting the tree and treating the stump to prevent regrowth, or spraying (aerial or hand-held).

Explanation/Intent of Rule

To allow minor works necessary for the enhancement and ongoing maintenance of a wetland. Removal of pest plants or exotic plant species is a major part of a wetland enhancement.

WL R7 (Rule 84) **Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017.**

WL R8 (Rule 84A) **Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017.**

WL R9 (Rule 85) **Discretionary – Modification of a Wetland**

The:

- 1 Modification of a wetland for the maintenance or enhancement of a wetland, and where the activity is consistent with WL P3 but does not comply with WL R1, WL R2 or WL R6.

Or

- 2 Sustainable use of a wetland where the activity is consistent with WL P10 but does not comply with WL R3.

Or

- 3 Removal of weeds and other vegetation clearance necessary for the maintenance of wetlands in water bodies created for hydroelectric generation, and does not comply with WL R5.

Or

- 4 Modification of a wetland not otherwise addressed by (1) to (3) and causes any of the following adverse effects on the wetland:

- (a) Degradation of water quality, including through the discharge of sediment or other contaminants.

- (b) Changes to water flow and quantity, and drainage.
- (c) Erosion of land and soil resources where the activity causes or induces erosion that is persistent or requires active erosion control measures. Includes land instability, scour, severe pugging, and damage to margins, banks and land within the wetland.
- (d) Where the wetland is in the bed of a stream, river or lake, the disturbance, removal, damage, or destruction of any plant or the habitats of any plants or animals in the wetland.

Is a discretionary activity.

Advisory Note

- 1 The rules in this regional plan do not authorise the modification or disturbance of any archaeological or registered waahi tapu sites within the area of the activity. Written authority from Heritage New Zealand Pouhere Taonga is required prior to any destruction, damage or modification of an archaeological or registered waahi tapu site or an area where there is reasonable cause to suspect there is an archaeological site. Should any artefacts, bones or any other sites of archaeological or cultural significance be discovered within the area affected by the activity, written authorisation should be obtained from Heritage New Zealand Pouhere Taonga before any damage, modification or destruction is undertaken.
- 2 The modification of a wetland may also be controlled by provisions in district plans.
- 3 Refer to the definition of 'wetland' in the Definition of Terms of this regional plan to clarify where this rule applies.
- 4 WL R9(4) applies to the drainage of a wetland, or activities adjacent to a wetland that causes adverse effects on a wetland. Contact the Regional Council staff for assistance to determine if WL R9(4) applies to a proposed activity.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse effects on the values of wetlands on a case by case basis through a resource consent application. It is appropriate to restrict modification activities as wetlands are particularly vulnerable to adverse effects. Although it is recognised that maintenance and enhancement activities may be necessary to sustain the wetland, it is necessary to ensure that large scale enhancement activities are carried out to avoid, remedy or mitigate any adverse effects on wetland values. The rule controls effects that are the Regional Council's responsibility in relation to section 30 of the Act.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	<i>KT O4, KT O5, KT O6, IM O1, BW O1, WL O1</i>
<i>Policy</i>	<i>KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, BW P3, WL P1, WL P2, WL P3</i>
<i>Method</i>	<i>KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12</i>

TH Tauranga Harbour

Tauranga Harbour

Objective

TH O1 (Objective 18)

Achieve the sustainable management of riparian margins (excluding artificial watercourses, and ephemeral flowpaths), which may include retirement, in the following priority catchment:

- (a) Tauranga Harbour
 - (i) Harbour margins – 100% by 2010.
 - (ii) Rivers and streams in the Tauranga Harbour catchment – 80% by 2020.

KM Kaituna, Maketū and Pongakawa

Contents

RL Rotorua Lakes and LR Lake Rotorua Nutrient Management..... 1

Rotorua Lakes

Objectives 1

Policies 1

Methods of Implementation 2

Rules..... 5

Lake Rotorua Nutrient Management 21

RL Rotorua Lakes

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

Rotorua Lakes

Objectives

RL O1 (Objective 11) The water quality in the Rotorua lakes is maintained or improved to meet the following Trophic Level Indices:

(a)	Lake Okareka	–	3.0
(b)	Lake Okaro	–	5.0
(c)	Lake Okataina	–	2.6
(d)	Lake Rerewhakaaitu	–	3.6
(e)	Lake Rotoehu	–	3.9
(f)	Lake Rotoiti	–	3.5
(g)	Rotokakahi	–	3.1
(h)	Lake Rotoma	–	2.3
(i)	Lake Rotomahana	–	3.9
(j)	Lake Rotorua	–	4.2
(k)	Lake Tarawera	–	2.6
(l)	Tikitapu	–	2.7

RL O2 (Objective 12) Reduced occurrence of cyanobacterial algal blooms on the Rotorua Lakes.

RL O3 (Objective 18) Achieve the sustainable management of riparian margins (excluding artificial watercourses, and ephemeral flowpaths), which may include retirement, in the following priority catchments:

- (a) Rotorua lakes.
 - (i) All lake margins – 100% by 2007.
 - (ii) Rivers and streams in all lake catchments – 100% by 2020.
 - (i) Rivers and streams in the catchment of Lake Rotorua – 90% by 2010.

Policies

RL P1 (Policy 33) To promote and support land use change and/or land management practices in the catchments of the Rotorua Lakes that will achieve lake water quality improvement.

Methods of Implementation

The Regional Council will:

Working with Other Resource Management Agencies and the Community

RL M1 (Method 41)

Develop and implement Action Plans to maintain or improve lake water quality to meet the TLI set in RL O1. Action Plans will be developed according to the following process.

Action Plan Stages

1 Stage 1 – Risk Assessment and Problem Evaluation

- (a) Identify lakes that exceed the TLI set in RL O1, and initiate Stage 3. As at August 2003, the lakes that exceed the TLI are Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti. The timeline to initiate Stage 3 is:
 - (i) Lake Okareka – early 2003.
 - (ii) Lake Rotoehu, Lake Okaro – mid 2003
 - (iii) Lakes Rotorua & Rotoiti – mid 2003
- (b) For all other Rotorua Lakes not specified in (a):
 - (i) Evaluate the risk of the lake exceeding the TLI set in RL O1, and initiate Stage 2. The timeline to initiate the risk assessment is: Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, Rotomahana – 2005. The risk of the lake exceeding the TLI will be assessed using all lake water quality monitoring data, including, but not limited to, dissolved oxygen (Hypolimnetic Volumetric Oxygen Depletion Rate), water temperature, nitrogen and phosphorus levels, Chlorophyll a, algal species, Secchi disc depth, TLI, and Percent Annual Change. The evaluation will take into account the age of groundwater, spring water and inflowing stream water in the catchment, and the lag time between land use activities and effects on water quality.
 - (ii) Where state of the environment monitoring identifies that a lake exceeds its TLI specified in RL O1, where the 3-year moving average TLI for the lake exceeds its designated TLI specified in RL O1 by 0.2 for 2 consecutive years, initiate Stage 3.

2 Stage 2 – Project Prioritisation

- (a) Evaluate the results from Stage 1(b) (i) to determine if Stage 3 and 4 of the Action Plans are necessary to maintain or improve lake water quality.
- (b) Prioritise the development of Stage 3 and 4 of the Action Plans for lakes where such action is necessary. Prioritisation will be determined in conjunction with the co-management partners of the Strategy for the Lakes of the Rotorua District.

3 Stage 3 – Development of Action Plan for Lake Catchment

- (a) Where lake water quality exceeds the TLI:
 - (i) Identify and quantify the lake water quality problem and any necessary research.
 - (ii) Identify and quantify the reduction of nitrogen and phosphorus required in the catchment to achieve the TLI in RL O1.
 - (iii) Estimate the contributing sources of nitrogen and phosphorus in the catchment, and the effects of existing land uses and activities in the catchment on the lake's nutrient load.
 - (iv) Estimate the lag between actual land use change and lake water quality effects.
 - (v) Establish a timeline for developing an Action Plan for the lake

catchment.

- (b) Disseminate information and research findings to the community.
- (c) Develop and implement Stage 3 and 4 of the Action Plan in conjunction with an Action Plan Working Group comprising appropriate parties from the individual catchment. The Action Plan Working Group will include, but is not limited to, Rotorua District Council, iwi, community groups, landowners, and relevant resource management agencies and industry representative groups. The main aims of Stage 3 of the Action Plan are:
 - (i) Identify factors that affect lake water quality and any necessary research.
 - (ii) Include equitable and workable provisions to address effects on existing land uses where it is necessary to restrict land use to maintain or improve water quality. Such provisions include, but are not limited to, criteria for possible financial assistance and land acquisition.
 - (iii) Identify efficient, cost-effective and equitable measures and options to reduce inputs of nitrogen and phosphorus from the lake catchment to maintain or improve lake water quality.
 - (iv) Determine if the TLI in RL O1 can be realistically achieved, and a practicable timeline for achieving the target TLI.
- (d) Identify the costs and benefits of different nutrient management and reduction methods. Such methods include, but are not limited to:
 - (i) Education on nutrient management;
 - (ii) Riparian retirement;
 - (iii) Constructed wetlands;
 - (iv) Sewage reticulation;
 - (v) Review of existing discharge consents in the catchment;
 - (vi) Land use changes;
 - (vii) Land purchase or lease;
 - (viii) Engineering works;
 - (ix) Nutrient trading systems.
- (e) Take into account the macro-economic and micro-economic effects of lake water quality maintenance or improvement measures, including the value of land use and lake water quality to the catchment, district, region and wider community.
- (f) Apply existing funding policies and other funding options for lake water quality maintenance or improvement works, including, but not limited to:
 - (i) Differential rating as a means of paying for works within the catchment.
 - (ii) Central government funding.
 - (iii) User charges.
 - (iv) Environmental Programmes.
- (g) Determine if regulatory measures are necessary to control the discharge of nitrogen or phosphorus, or both, from land use activities in the lake catchment (Refer to RL M2).
- (h) Document a timetable for implementing nutrient management and reduction options.

4 Stage 4 – Implementation and Monitoring of Action Plans

- (a) Implement the lake water quality improvement measures identified and agreed to in Stage 3.
- (b) Evaluate and report progress towards achieving the TLI in RL O1 to all parties, and the community.

RL M2 (Method 42)

In conjunction with the Action Plan Working Group (refer to RL M1), review the necessity and application of the Rules in this section of this regional plan to individual lake catchments.

1 The review will:

- (a) Consider matters from the Action Plans developed in

- accordance with RL M1.
 - (b) Consider how to achieve the long-term sustainable management of nitrogen and phosphorus use and discharges in the individual lake catchment.
 - (c) Recognise that it may be efficient, effective, and appropriate to develop and implement specific rule(s) for each of the lake catchments.
 - (d) Recognise that the Action Plan Working Group may recommend to the Regional Council any changes to the rules in this section but the Regional Council retains control over the plan change process. Members of the Action Plan Working Group and individuals retain the right of submission and appeal.
 - (e) Include any changes to the rules in this section of the Regional Plan through a plan change process in accordance with the requirements of Schedule 1 to the Act.
- 2 The review will be discussed during the development of the Action Plans, and plan change(s) initiated for:
- (a) Lake Okareka – January 2005.
 - (b) Lake Rotoehu – January 2006.
 - (c) Lake Okaro – January 2006.
 - (d) Lake Rotorua and Rotoiti – January 2006.

RL M3 (Method 43) Support land use changes, and changes to land use rules, that:

- (a) Achieve lake management objectives identified in lake Action Plans developed in accordance with RL M1.
- (b) Integrate land use planning and rules in the Regional Council's resource management plans and Rotorua District Council's District Plan for lake catchments.
- (c) Recognise that land use change and land management practices are an important part of lake management.
- (d) Actively promote and support low nutrient loss land uses and land management practices in the catchments of the Rotorua Lakes.

Regulatory Methods

- RL M4 (Method 52) Use the following process to include regulatory measures in this regional plan to control the export of nitrogen and phosphorus from land use activities in the catchment of lakes that:
- 1 Exceed their TLI specified in RL O1, where the 3-year moving average TLI for the lake exceeds its designated TLI specified in RL O1 by 0.2 for 2 years; OR
 - 2 Are at risk of declining water quality, as identified by RL M1 Stage 1(b)(i).

Process for Regulatory Measures

- (a) Investigate the cause or risk of the decline in water quality and report to the Regional Council.
- (b) Develop an action plan for the lake catchment in accordance with RL M1.
- (c) Initiate a plan change in accordance with the Act to include regulatory measures in this regional plan to address the export of nitrogen and phosphorus from land use activities, including land use changes, in the specific lake catchment.

Matters Relevant to Resource Consent Applications and Processing

- RL M5 (Method 62) Investigate, and if practicable, implement a nutrient trading system within the lakes catchment for those land use changes affected by rules in this

section.

RL M6 (Method 63)

For the purposes of implementing the rules in this section, the Regional Council will use the following methods to assist the assessment of changes in nutrient export, and compliance with the requirements of the rules in this section:

- (a) The development of a protocol that will assist the exchange of information between the Regional Council and Rotorua District Council for the purpose of assessing which land use of subdivision applications have the potential to increase nutrient export.
- (b) Monitoring of catchments to provide information on land use and land use change.
- (c) The investigation and evaluation of nutrient budget models at the property scale.
- (d) Provision of advice to resource users on best nutrient management practices.

Monitoring and Investigation of the Environment

RL M7 (Method 69)

Identify and monitor key sites in the catchments of lakes where Action Plans are developed to assess the extent of nitrogen and phosphorus reduction in the catchment.

RL M8 (Method 83)

Review and refine lake water quality indicators in response to improved scientific knowledge.

Rules

Discharges of Nitrogen or Phosphorus from Land Use and Discharge Activities in the Rotorua Lakes Catchments

Explanation/Intent of this section

The rules in this section are necessary to achieve RL O1 and IM P1(a). This section should be read in conjunction with RL M1, RL M2, the Lake Water Quality Management Timetable in Appendix 1 and the Explanation/Principal Reasons for Integrated Management of Land and Water section of Appendix 1 for a full understanding of the provisions for lake water quality management in this regional plan. The intent of the rules in this section is to prevent the net increase of the export of nitrogen or phosphorus from the cumulative effects of all activities in the catchments of degraded lakes in order to assist the recovery of lake water quality. It is recognised that past practices have, over 60 years, contributed to the present state of the lakes, and as a result lake sediments contain high levels of nitrogen and phosphorus. It should be noted that the implementation of this section and RL M1 may take decades to return lake water quality to an acceptable state.

All land use activities in the catchments of the Rotorua Lakes contribute nutrients to the environment. To improve lake water quality it is necessary to adopt an integrated catchment management approach and address the effects of all activities in a catchment, including land use activities and point source discharges (e.g. sewage discharges, septic tanks, dairy shed effluent). It is therefore necessary to apply relevant nutrient management rules to all land use activities in the targeted catchments, which is illustrated in Table RL 1.

Table RL 1 Rules in Rotorua Lakes

	Land Use	Applicable Regional Council Rules
(a)	Reticulated urban areas and lakeside settlements	<p>RL R1 – indicates that the effects of reticulated urban areas and lakeside settlements will be addressed through the control of point source discharges.</p> <p>RL R7 and DW R8 – apply to point source discharges of sewage and stormwater, which are managed by Rotorua District Council. RL R7 restricts any increase in nitrogen or phosphorus from a point source discharge.</p> <p>Sewage – Resource consents limit the allowable nitrogen and phosphorus discharge from sewage treatment plants. Rotorua City's nutrient loading from sewage has been reduced from 130-150 tonnes nitrogen per year and 33.8 tonnes phosphorus per year (prior to land-based discharge in 1988), to less than 30 tonnes nitrogen per year and less than 3 tonnes phosphorus per year (2004). Reticulation of other urban areas and lakeside settlements will reduce the nutrient loading compared to the current outputs from septic tank systems by up to 80%. Refer to the Rotorua District Council Long Term Plan ('LTP') for reticulation dates for other areas in the Rotorua Lakes' catchments, which will be refined in future editions of the LTP or as a result of community decisions.</p> <p>Urban stormwater – resource consents will require the appropriate management and treatment of urban stormwater to ensure no net increase of nitrogen or phosphorus within the lake catchment from a discharge (refer to the Discharge of Stormwater in the Discharges to Water and Land section of this regional plan).</p>
(b)	Non-reticulated urban areas and lakeside settlements	<p>Septic tank discharges - Refer to the On-Site Effluent Treatment Regional Plan. The rules in that plan require the nutrient loading from septic tank discharges within 200 metres of the lakeshore, or on properties less than 4 hectares within lake catchments, to be substantially reduced from 40-70 grams nitrogen per cubic metre to 15 grams nitrogen per cubic metre. This requires the installation of an advanced treatment system. Some urban areas and lakeside settlements, and small rural properties will be reticulated over time and will then be covered by RL R1.</p> <p>Stormwater discharges – managed as per Reticulated Urban Areas (refer to (a) above).</p>
(c)	Properties <0.4 hectares (4,000 m ²) where the nitrogen output from the property is less than 10 kg per hectare per year	<p>RL R2 – permitted providing the nutrient export levels remain below 10 kg per hectare per year (excluding the discharge from on-site effluent treatment systems).</p> <p>Recognises that low-intensity lifestyle blocks have minimal nutrient exports, while requiring landowners to retain the low intensity land use.</p>
(d)	Other land uses	<p>RL R3, RL R4, RL R5 and RL R6 – establishes a nutrient benchmark that landowners cannot breach. Sets a cap on the level of nutrients from rural land uses within each of the targeted lake catchments.</p>

The Rules in this section are subject to a 'mandatory review clause' to clearly indicate that the Regional Council will review the applicability of the rules to each targeted lake catchment in accordance with RL M2 and the development of Action Plans under RL M1. It is recognised that the current set of rules are 'first generation', and that the Action Plan Working Groups may identify and develop more appropriate means of controlling nitrogen and phosphorus losses from land use activities. The wording of the 'mandatory review clause' ensures that the existing rules remain enforceable until the new reviewed rules for that lake catchment become operative. However, greater weight will be given to new rules as these progress through submission and appeal processes. The Regional Council is obligated to implement a review of the rules for each of the targeted lake catchments in accordance with the timeframes stated in RL M1.

Advisory Note

- 1 Discharges of nitrogen and phosphorus from on-site effluent treatment systems (including septic tanks) are addressed by provisions in the OSET Plan. Where an on-site effluent treatment system requires a consent under the OSET Plan, the activity will be assessed in accordance with the OSET Plan and RL R7.
- 2 The Rules in this section apply to the activities listed in the table below:

Table RL 2 Rotorua Lakes Activities and Associated Rules

Activity	Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti
Urban areas, lakeside settlements and small properties connected to reticulated wastewater systems	RL R1
Small properties (less than 0.4 hectares) not connected to reticulated wastewater systems, and nitrogen export level is less than 10 kg/ha/year	RL R2
Land use activities that have undergone conversion between 1 July 2001 and 30 June 2004, and subsequent modification	RL R3, RL R4, RL R5 and RL R6
Land use activities (not conversions) and subsequent modification	RL R4, RL R5 and RL R6
Existing point source discharges of contaminants	Refer to Rules in the Discharges to Water and Land section
Increases in the discharge of nitrogen or phosphorus from point source discharges	Activity is subject to rules in the Discharges to Water and Land section and RL R7

- 3 For Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, Rotomahana, RL M1 will be implemented to assess the risk of lake water deterioration, and to maintain water quality to meet the TLI set in RL O1. Refer to RL M4 for the process to include rule(s) in this regional plan to regulate activities in these lake catchments. Where lake water quality breaches the TLI, RL M1 (Action Plans) and RL M4 (new regulatory rules to control nitrogen and phosphorus) will be immediately implemented.
- 4 RL R3, RL R4, RL R5 and RL R6 control land use development, including the development of scrub or bare land, to ensure there is no net increase of the export of nitrogen and phosphorus from the proposal, or the increase can be offset on the property or within the same lake catchment. Low nutrient output land use activities are preferred.
- 5 Some land use activities in the catchments of the Rotorua Lakes may be subject to other rules in this regional plan, or rules in the Rotorua District Plan. For example, resource consents for vegetation clearance must be obtained in some areas. Land users are advised to check the relevant sections of this regional plan, or seek advice from the Regional Council staff. Contact Rotorua District Council for advice on provisions in the Rotorua District Plan.

Increases in Nitrogen and Phosphorus Exports from Non-Point Source Discharges in the Catchments of Lakes Rotorua, Rotoiti, Okareka, Rotoehu and Okaro

This section applies to land use activities, which comprise two components:

- (a) Land use change – the change of land use from one usage to another where the nutrient export from the property is changed. For example, the

conversion of forestry to grazing, the conversion of dry stock to dairying, the conversion of pastoral grazing to horticulture, or the subdivision of land for lifestyle blocks or residential development.

- (b) Land management practices – different practices within a land use type, including but not limited to, intensification of an existing land use, using a feed pad, fertiliser application rates and timing, riparian retirement, or stock management practices.

RL R2, RL R3, RL R4, RL R5 and RL R6 do not apply to land use activities in the specified lake catchments where reviewed rules for the lake catchment are operative. The mandatory review dates for the rules in the affected lake catchments (including the dates for public notification of reviewed rules) are specified in (a) to (d) below. RL R1 will remain in place as it is intended that lakeside properties, lake settlements, and other small rural properties (where appropriate), will be connected to reticulated sewage systems.

Table RL 3 Rule RL R2 – RL R6 Mandatory Review Clause

	Lake Catchments	Mandatory Review Clause for Rules RL R2 – RL R6
(a)	Lake Okareka	A plan review must be initiated in January 2005 (refer to RL M2), and a plan change will be publicly notified by 1 July 2006.
(b)	Lake Okaro	A plan review must be initiated in January 2006 (refer to RL M2), and a plan change will be publicly notified by 31 December 2007.
(c)	Lake Rotoehu	A plan review must be initiated in January 2006 (refer to RL M2), and a plan change will be publicly notified by 31 December 2007.
(d)	Lakes Rotorua and Rotoiti	A plan review must be initiated in January 2006 (refer to RL M2), and a plan change will be publicly notified by 31 December 2007.

For administrative efficiency the rules in this section will be applied in accordance with (a) and (b) where properties cross lake catchment boundaries:

- (a) Where a property lies within two of the following lake catchments; Lakes Rotorua, Rotoiti, Rotoehu, Okareka and Okaro, information will be split to show the nutrient information for those parts of the property within each of the lake catchments.
- (b) Where a property lies partly within the catchment of Lake Rotorua, Rotoiti, Rotoehu, Okareka or Okaro, and partly in another catchment, the rules apply only to that part of the property that is within the catchment of a specified lake, unless the area within the targeted lake catchment is less than 4,000 m² (0.4 hectares). In situations where the affected area is less than 4,000 m² (0.4 hectares), that area is exempt from the rules in this section.

The Regional Council has functions under the Act to undertake audits of resource use activities when necessary to assess compliance with rules and consents. This includes, but is not limited to, activities permitted under RL R2, RL R3, and RL R4 and activities consented under RL R5, RL R6, RL R7.

The Regional Council will supply information to Rotorua District Council for inclusion on Land Information Memorandum for properties subject to rules in this section to clearly identify the following, where applicable:

- (a) What lake catchment or catchments the property lies within.
- (b) The part of the property that is exempt from the rules, if the part of the property within a targeted lake catchment is less than 4,000 m² (0.4 hectares).

- (c) The rules in this section applicable to the property. Landowners are advised to contact the Regional Council for further information.

RL R1 (Rule 11) Permitted – Land Use Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti where the property is connected to a reticulated wastewater (sewage) system

Any land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua or Rotoiti, where:

- 1 The property is connected to a reticulated wastewater (sewage) system; and either (a) or (b):
 - (a) The property is within an urban area or lakeside settlement.
 - (b) The property is in a rural area and is less than 0.4 hectares (4,000 m²).

Is a permitted activity.

Advisory Note

- 1 This rule applies to areas where there are existing reticulated wastewater (sewage) systems, and to other areas when such connections are made.
- 2 For the avoidance of doubt, this rule applies to infill housing, the development of residential subdivisions, and other land use changes (e.g. industrial or commercial operations) within reticulated areas.
- 3 Rural properties that are greater size than 0.4 hectares and connected to a reticulated sewage system are subject to RL R3, RL R4, RL R5 and RL R6.
- 4 Urban areas and lakeside settlements that are not reticulated are subject to RL R2, RL R3, RL R4, RL R5, and RL R6, whichever are relevant.

Explanation/Intent of Rule

To specifically provide for residential land use activities in the catchments of those Rotorua Lakes where water quality exceeds the TLI in RL O1, where the effect of the activity is addressed by the control of point source discharges (e.g. sewage and stormwater discharges). Refer to Flow Diagram RL 1 to assist reading of this rule.

RL R2 (Rule 11A) Permitted – Small-scale, low nutrient Land Use Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti

Any land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua or Rotoiti, where:

- 1 The property is not connected to a reticulated wastewater (sewage) system, and
- 2 The size of the property is no greater than 0.4 hectares (4,000 square metres (m²)); and
- 3 The nitrogen export from the property is less than 10 kilograms per hectare per year, excluding the discharge from on-site effluent treatment systems on the property;

Is a permitted activity.

Advisory Note

- 1 Properties less than 0.4 hectares where the nitrogen export is greater than 10 kilograms per hectare per year are subject to RL R3, RL R4, RL R5 and RL R6. This applies to existing land use activities, and modification to existing land use activities that increase the nitrogen export level to greater than 10 kilograms per hectare per year.
- 2 RL R2 applies to non-reticulated lake-side settlements.

- 3 Land use activities that cause a nitrogen loss of less than 10 kilograms per hectare per year include, but are not limited to, any ONE of the following:
- (a) Horse, donkey or mule – maximum of one per property.
 - (b) Sheep or goats – maximum of three per property.
 - (c) Alpaca or Llama – maximum of two per property.
 - (d) Pigs – a maximum of two weaners grown through to baconer stage; or one sow with a litter of piglets grown to weaned stage and one weaned subsequently grown to baconer stage. Pigs are to be kept in a sty with occasional free range, and no continuous free range.
 - (e) A maximum fertiliser application of 10 kilograms of phosphorus per hectare per year (or 4 kilograms of phosphorus per 4,000 m² per year). This equates to 300 kilograms of Potosí Super per hectare per year (or 120 kilograms per 4,000 m² per year).

Landowners can contact the Regional Council for free advice on other low nutrient land uses that will comply with the nutrient limit.

Explanation/Intent of Rule

To specifically provide for small-scale land use activities in the catchments of those Rotorua Lakes where water quality exceeds the Tropic Level Index in RL O1, where the activity has a low nitrogen export level. Refer to Flow Diagram RL 1 to assist reading of this rule.

RL R3 (Rule 11B) Permitted – Land Uses on Converted Properties, in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti

Any land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua or Rotoiti, where:

- 1 The land use activity is not otherwise permitted by RL R1 or RL R2;
- and either 2 or 3:
- 2 The land use activity has been changed from dry stock to dairying, or pastoral grazing to horticulture; and the change commenced between 1 July 2001 and 30 June 2004.
 - 3 The land use activity has been changed from forestry to dairying, forestry to pastoral grazing, or forestry to another land use; and the change commenced between 1 July 2001 and 30 June 2004.

Is a permitted activity subject to the following conditions:

- (a) Where the land use activity complies with 2 above, the information in Table RL 4 (as applicable) shall be supplied to the Regional Council no later than 31 December 2005 or when the property is sold, whichever is the sooner, to register the annual average export of nitrogen and phosphorus from the property for the period 1 July 2004 to 30 June 2005. This will become the nutrient benchmark for the property.
- (b) Where the land use activity complies with 3 above, the information in Table RL 4 (as applicable) shall be supplied to the Regional Council no later than 31 December 2005 or when the property is sold, whichever is the sooner, to register the annual average export of nitrogen and phosphorus from the property for the period 1 July 2004 to 30 June 2005, except where the land use change began after 1 January 2003. This will become the nutrient benchmark for the property.
- (c) Where the land use activity complies with 3 above and the land use change began after 1 January 2003, an appropriate nutrient benchmark will be set by the Regional Council in conjunction with the landowner and an independent nutrient management adviser, to allow a fair and reasonable production level relative to the property characteristics and land use.
- (d) Any modification to the land use activity shall comply with (i), (ii) or (iii):

- (i) The modification decreases the annual average export of nitrogen or phosphorus from the property as compared to the nutrient benchmark for the property.
- (ii) The modification maintains the annual average export of nitrogen or phosphorus from the property at the same level to the nutrient benchmark for the property.
- (iii) The modification is forestry harvesting where the area is replanted for forestry or permanent retirement purposes (note that forestry activities are also subject to by rules in the Land Management section of the regional plan).

Table RL 4 Rule RL R3 Nutrient Benchmark Information Requirements

	General Information
1	Land area.
2	Soil drainage class and soil characteristics.
3	Rainfall.
4	Slope/Topography.
5	Land cover and land use on the property (including percentage of land area in different land uses).
6	Percentage of riparian areas of rivers, streams and lakeshore on the property that have been fenced, or in retirement plantings
7	Area of wetlands on the property.
8	Number of houses on the property.
9	Type of sewage treatment for the houses on the property.
10	Fertiliser application – type and amount of fertiliser, and percentage of amount applied in May, June and July.
11	Type of livestock on the property.
12	Peak number of livestock by stock type.
13	For beef properties, the percentage of female livestock.
14	Number of livestock taken off the property, or put onto a wintering pad/loafing pad/feedpad during winter.
15	Where a wintering pad/loafing pad/feedpad is used, the waste treatment and disposal system for the wintering pad/loafing pad/feedpad.
16	Crop type(s), and area in each crop. This includes forestry.
17	Volume of irrigation.
18	Supplementary stock feed purchased or sold off-farm.
19	Description of other land management practices relevant to nutrient management.
20	Annual exports from the property (e.g. crops, livestock, milk solids etc).

Advisory Note

- 1 RL R3 applies to land used for commercial and industrial use, agricultural, pastoral and horticultural production, lifestyle blocks, production forestry, and bare land, scrub or indigenous forest, where the land use activity is not permitted by RL R1 or RL R2.
- 2 Land use changes, including intensification of existing land uses, are addressed by RL R3(d), RL R5 and RL R6.
- 3 Each property is to be managed separately. Where a landowner has multiple properties within the same lake catchment they may be managed jointly within a resource consent under RL R5. This would allow a landowner to increase production on one property and apply offset measures on their other property.
- 4 The process to obtain information to comply with RL R3 will be as follows:

- (a) The Regional Council will send out an initial query to all landowners subject to RL R3 and RL R4 (which excludes land uses permitted by RL R1 and RL R2) to determine what land use activities are carried out on the property.
 - (b) Appropriate land use activity forms will be then sent to landowners to assist them to provide the relevant information. The Regional Council can provide information on soil drainage class and rainfall free of charge. It is the responsibility of the person using the land to provide the nutrient benchmark information. Where the property is leased, it is the responsibility of the lessee to provide the information rather than the landowner. The Regional Council will assist people to determine the baseline output of nitrogen or phosphorus from their property or properties.
 - (c) The Regional Council will track who has received land use activity forms and responses received. Landowners or land users (including lessees) who have not supplied information by the required date will be contacted, and if the information is not forthcoming, appropriate existing legislative options will be enacted.
- 5 In relation to Table RL 4, rows 11, 12, 13, 14 and 20, the type and size of stock will be used to determine the nutrient benchmark. Each stock type has a different nutrient output, for example, one sheep does not equate to one dairy cow.
- 6 In relation to RL R3(d), the measurement of the discharge of nitrogen and phosphorus is to be according to the following:
- (a) Use the nitrogen and phosphorus export baseline using information supplied in relation to RL R3(a), (b) or (c).
 - (b) Determine the annual average export of nitrogen and phosphorus from the property as a result of the proposed land use activity. The same model used in (a) is to be used in (b) to compare the baseline level and the effects of any proposed change to the activity.
 - (c) Determine appropriate nutrient management measures that can be applied on the property to fully offset any increase of nitrogen or phosphorus from the proposed land use activity. The same model used in (a) and (b) is to be used in (c) to compare the baseline level, effects of the proposed land use activity, and any effects of proposed nutrient management measures to fully offset the expected increase of nitrogen or phosphorus.
 - (d) Where appropriate nutrient management measures cannot be applied on the property to fully offset the expected increase of nitrogen or phosphorus from proposed land use activity, the activity is subject to RL R5 or RL R6.

Explanation/Intent of Rule

To allow land use activities in the catchments of those Rotorua Lakes where water quality exceeds the TLI in RL O1, where the effect of the activity does not increase the discharge of nitrogen or phosphorus beyond an established baseline level. Refer to Flow Diagram RL 1 to assist reading of this rule.

RL R4 (Rule 11C) Permitted – Land Use Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua or Rotoiti – properties where land use change (conversion) has not occurred

Any land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua or Rotoiti, where the land use activity is not otherwise permitted by RL R1, RL R2 or RL R3; is a permitted activity subject to the following conditions:

- (a) The information in Table RL 5 (as applicable) shall be supplied to the Regional Council no later than 31 December 2005, or when the property is sold, whichever is the sooner, to register the annual average export of nitrogen and phosphorus from the property for the period 1 July 2001 to 30 June 2004. This will become the nutrient benchmark for the property.

- (b) Any modification to the land use activity must comply with (i), (ii), or (iii):
- (i) The modification decreases the annual average export of nitrogen or phosphorus from the property as compared to the level established as the baseline at 30 June 2004 as assessed by the nutrient model allowing for statistical variation.
 - (ii) The modification maintains the annual average export of nitrogen or phosphorus from the property at the same level as established as the baseline at 30 June 2004 as assessed by the nutrient model allowing for statistical variation.
 - (iii) The modification is forestry harvesting where the area is replanted for forestry or permanent retirement purposes (note that forestry activities are also subject to by rules in the Land Management section of the regional plan).

Table RL 5 RL R4 Nutrient Benchmark Information Requirements

	General Information
1	Land area.
2	Soil drainage class and soil characteristics.
3	Rainfall.
4	Slope/Topography.
5	Land cover and land use on the property (including percentage of land area in different land uses).
6	Percentage of riparian areas of rivers, streams and lakeshore on the property that have been fenced, or in retirement plantings
7	Area of wetlands on the property.
8	Number of houses on the property.
9	Type of sewage treatment for the houses on the property.
10	Fertiliser application – type and amount of fertiliser, and percentage of amount applied in May, June and July.
11	Type of livestock on the property.
12	Peak number of livestock by stock type.
13	For beef properties, the percentage of female livestock.
14	Number of livestock units taken off the property, or put onto a wintering pad/loafing pad/feedpad during winter.
15	Where a wintering pad/loafing pad/feedpad is used, the waste treatment and disposal system for the wintering pad/loafing pad/feedpad.
16	Crop type(s), and area in each crop. This includes forestry.
17	Volume of irrigation.
18	Supplementary stock feed purchased or sold off-farm.
19	Description of other land management practices relevant to nutrient management.
20	Annual exports from the property (e.g. crops, livestock units, milk solids etc).

Advisory Note

- 1 RL R4 applies to land used for commercial and industrial use, agricultural, pastoral and horticultural production, lifestyle blocks, production forestry, and bare land, scrub or indigenous forest, where the land use activity is not permitted by RL R1 or RL R2.
- 2 Land use changes, including intensification of existing land uses, are addressed by RL R4(b), RL R5 and RL R6.

- 3 Each property is to be managed separately. Where a landowner has multiple properties within the same lake catchment they may be managed jointly within a resource consent under RL R5. This would allow a landowner to increase production on one property and apply offset measures on their other property.
- 4 The process to obtain information to comply with RL R4 will be as follows:
 - (a) The Regional Council will send out an initial query to all landowners subject to RL R3 and RL R4 (which excludes land uses permitted by RL R1 and RL R2) to determine what land use activities are carried out on the property.
 - (b) Appropriate land use activity forms will be then sent to landowners to assist them to provide the relevant information. The Regional Council can provide information on soil drainage class and rainfall free of charge. It is the responsibility of the person using the land to provide the nutrient benchmark information. Where the property is leased, it is the responsibility of the lessee to provide the information rather than the landowner. The Regional Council will assist people to determine the baseline output of nitrogen or phosphorus from their property or properties.
 - (c) The Regional Council will track who has received land use activity forms and responses received. Landowners or land users (including lessees) who have not supplied information by the required date will be contacted, and if the information is not forthcoming, appropriate existing legislative options will be enacted.
- 5 For the avoidance of doubt, RL R3 applies to properties where land use change (conversion) has occurred, and RL R4 applies to properties where the land use has remained the same since 1 July 2001.
- 6 In relation to Table RL 5, rows 11, 12, 13, 14 and 20, the type and size of stock will be used to determine the nutrient benchmark. Each stock type has a different nutrient output, for example, one sheep does not equate to one dairy cow.
- 7 In relation to RL R4, the measurement of the discharge of nitrogen or phosphorus is to be according to the following:
 - (a) Use the nitrogen and phosphorus export baseline using information supplied in relation to RL R4(a).
 - (b) Determine the annual average export of nitrogen and phosphorus from the property as a result of the proposed land use activity. The same model used in (a) is to be used in (b) to compare the baseline level and the effects of any proposed change to the activity.
 - (c) Determine appropriate nutrient management measures that can be applied on the property to fully offset any increase of nitrogen or phosphorus from the proposed land use activity. The same model used in (a) and (b) is to be used in (c) to compare the baseline level, effects of the proposed land use activity, and the effects of proposed nutrient management measures to fully offset any expected increase of nitrogen or phosphorus.
 - (d) Where appropriate nutrient management measures cannot be applied on the property to fully offset the expected increase of nitrogen or phosphorus from proposed land use activity, the activity is subject to RL R5 or RL R6.
- 8 A 10% statistical variation exists in the current nutrient models.

Explanation/Intent of Rule

To allow land use activities in the catchments of those Rotorua Lakes where water quality exceeds the TLI in RL O1, where the effect of the activity does not increase the discharge of nitrogen or phosphorus beyond an established nutrient benchmark level (+ or - 10%), or increases can be offset on the property. Refer to Flow Diagram RL 1 to assist reading of this rule.

RL R5 (Rule 11D) Controlled – Land Use Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti, where the increase in nitrogen or phosphorus exports is fully offset on land within the same lake catchment

The increase in the discharge of nitrogen or phosphorus from a land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti, where:

- 1 The activity is not permitted by RL R1, RL R2, RL R3 or RL R4; and
- 2 The increase in the export of nitrogen or phosphorus from the proposed land use activity will be fully offset by the use of nutrient management measures on land within the same lake catchment; and
- 3 The nutrient management offset measures are on a different property; and
- 4 The nutrient management measures used to fully offset the effects of the proposed land use activity are not on land with indigenous forest land cover, or an urban area or lakeside settlement; and
- 5 The nutrient benchmark of nitrogen or phosphorus for the property where the land use activity will occur, and the property where off-site nutrient management measures will be used, have been registered with the Regional Council in accordance with RL R3 or RL R4 (whichever is applicable);

Is a controlled activity.

The Regional Council reserves its control over the following matters:

- (a) Measures to offset adverse effects on water quality, including surface water and groundwater.
- (b) Measures to avoid, remedy or mitigate adverse effects on aquatic ecosystems in streams and rivers.
- (c) Aspects of the land use activity that cause an increase in the export of nitrogen or phosphorus from the activity.
- (d) Measures to fully offset the increase in the export of nitrogen or phosphorus from the activity within the same lake catchment.
- (e) Contractual arrangements with third parties where the offset measures are not applied on the property.
- (f) The change to the nutrient benchmark limit for both properties. The nutrient benchmark for the property where the land use activity will take place will increase, and the property where offset measures will take place will decrease accordingly.
- (g) Administration charges under section 36 of the Act.
- (h) Financial contributions under Appendix 2 of this regional plan.
- (i) Information and monitoring requirements.

Advisory Note

- 1 RL R5 applies to land use activities where the increase of nitrogen or phosphorus exports from the property will be fully offset by nutrient management measures are partly or entirely off the property but on land within the same lake catchment.
- 2 Where a landowner has multiple properties within the same lake catchment they may be managed jointly within a resource consent under RL R5. This would allow a landowner to increase production on one property and apply offset measures on their other property.

Explanation/Intent of Rule

To provide for land use activities where the effects of the activity can be offset and any increases in the export of nitrogen or phosphorus are fully offset within the same lake catchment, but not entirely on the property. Applicants will need to identify and apply measures to offset any increased nutrient export resulting from the proposed activity. The controlled activity status allows the Regional Council to assess the suitability of offset measures, and monitor the implementation of nutrient management practices, particularly where the implementation relies on a third party. Proposed activities where measures have not been identified to offset

the increase in nitrogen or phosphorus, are restricted discretionary activities under RL R6. Refer to Flow Diagram RL 1 to assist reading of this rule.

RL R6 (Rule 11E) Restricted Discretionary – Land Use Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti

The discharge of nitrogen or phosphorus from a land use activity in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti, that is;

- 1 Not a permitted activity under RL R1, RL R2, RL R3 or RL R4; and
- 2 Not a controlled activity under RL R5;

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to offset adverse effects on water quality, including surface water and groundwater.
- (b) Measures to avoid, remedy or mitigate adverse effects on aquatic ecosystems in streams and rivers.
- (c) Measures to fully offset the increase in the discharge of nitrogen or phosphorus from the activity within the same lake catchment.
- (d) Aspects of the land use activity that cause an increase the export of nitrogen or phosphorus from the activity.
- (e) Contractual arrangements with third parties where the offset measures are not applied on the property.
- (f) Administration charges under section 36 of the Act.
- (g) Financial contributions under Appendix 2 of this regional plan.
- (h) Information and monitoring requirements.

Advisory Note

- 1 Any activity subject to the rules in this section must also comply with other relevant rules in this regional plan, and any relevant rules in a district plan.
- 2 Resource consent applications under RL R6 may be granted where:
 - (a) Any increase of nitrogen or phosphorus loss from the land use activity can be fully offset within the same lake catchment; or
 - (b) Any increase of nitrogen or phosphorus is discharged outside the catchments of the Rotorua Lakes; or
 - (c) Any increased nitrogen or phosphorus is fully bound within the soil and does not reach groundwater or enter surface water bodies; or
 - (d) The purpose of the activity is for research purposes.
- 3 Resource consent applications under RL R6 will be declined where:
 - (a) The adverse effects of the increased nitrogen or phosphorus loss from the land use activity cannot be fully offset within the same lake catchment; or the nitrogen or phosphorus cannot be taken outside the catchments of the Rotorua Lakes; or the nitrogen or phosphorus is not bound within the soil.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

Objective IM O1, LM O1, RL O1, IM O3
Policy IM P1
Method LM M9, RL M6

Explanation/Intent of Rule

To allow the Regional Council to address the effects of discharges of nitrogen and phosphorus resulting from land use activities on lake water quality. This is to minimise the input of nitrogen and phosphorus into lakes and their catchments in order to achieve the Trophic Level Indices stated in RL O1. Applicants will need to identify and apply measures to offset any increased nutrient export resulting from the proposed activity. Resource consent applications for proposed activities that increase the nitrogen or phosphorus levels in a lake catchment, after taking into account offset measures including off-site mitigation, do not comply with the requirements of this regional plan and will be declined. Refer to Flow Diagram RL 1 to assist reading of this rule.

Increases in Nitrogen and Phosphorus from Point source Discharges in the Catchments of Lakes Rotorua, Rotoiti, Okareka, Rotoehu and Okaro

RL R7 (Rule 11F) Restricted Discretionary – Increased Discharges of Nitrogen and Phosphorus from Discharge Activities in the Catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti

The increase in the discharge of nitrogen or phosphorus from a:

- 1 Point source discharge of contaminants to water; or
 - 2 Point source discharge of water to water; or
 - 3 Point source discharge of contaminants to land in circumstances where the contaminant may enter surface water or groundwater;
- in the catchments of Lakes Okareka, Rotoehu, Okaro, Rotorua and Rotoiti,

Is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Measures to offset adverse effects on water quality, including surface water and groundwater.
- (b) Measures to fully offset the increase in the discharge of nitrogen or phosphorus from the activity within the same lake catchment.
- (c) Measures to avoid, remedy or mitigate adverse effects on aquatic ecosystems in streams and rivers.
- (d) Aspects of the activity that cause an increase the export of nitrogen or phosphorus from the activity.
- (e) Administration charges under section 36 of the Act.
- (f) Financial contributions under the Appendix 2 of this regional plan.
- (g) Information and monitoring requirements.

Advisory Note

- 1 For point source discharges of contaminants, any increase in the discharge of nitrogen or phosphorus above authorised levels, is subject to RL R7.
- 2 Any activity subject to RL R7 must also comply with other relevant rules in this regional plan, and any relevant rules in a district plan.
- 3 Resource consent applications under RL R7 may be granted where:
 - (a) Any increase of nitrogen or phosphorus from the discharge activity can be fully offset within the same lake catchment; or
 - (b) Any increase of nitrogen or phosphorus is discharged outside the catchments of the Rotorua Lakes; or
 - (c) Any increased nitrogen or phosphorus is fully bound within the soil and does not reach groundwater or enter surface water bodies; or
 - (d) The purpose of the activity is for research purposes.

- 4 Resource consent applications under RL R7 will be declined where:
 - (a) The adverse effects of the increased nitrogen or phosphorus from the discharge cannot be fully offset within the same lake catchment; or the nitrogen or phosphorus can not be taken outside the catchments of the Rotorua Lakes; or the nitrogen or phosphorus is not bound within the soil.
- 5 The increase will be determined relative to the lesser of:
 - (a) An existing limit in an existing resource consent, or
 - (b) The actual level of performance of the discharge activity.

Assessment Criteria

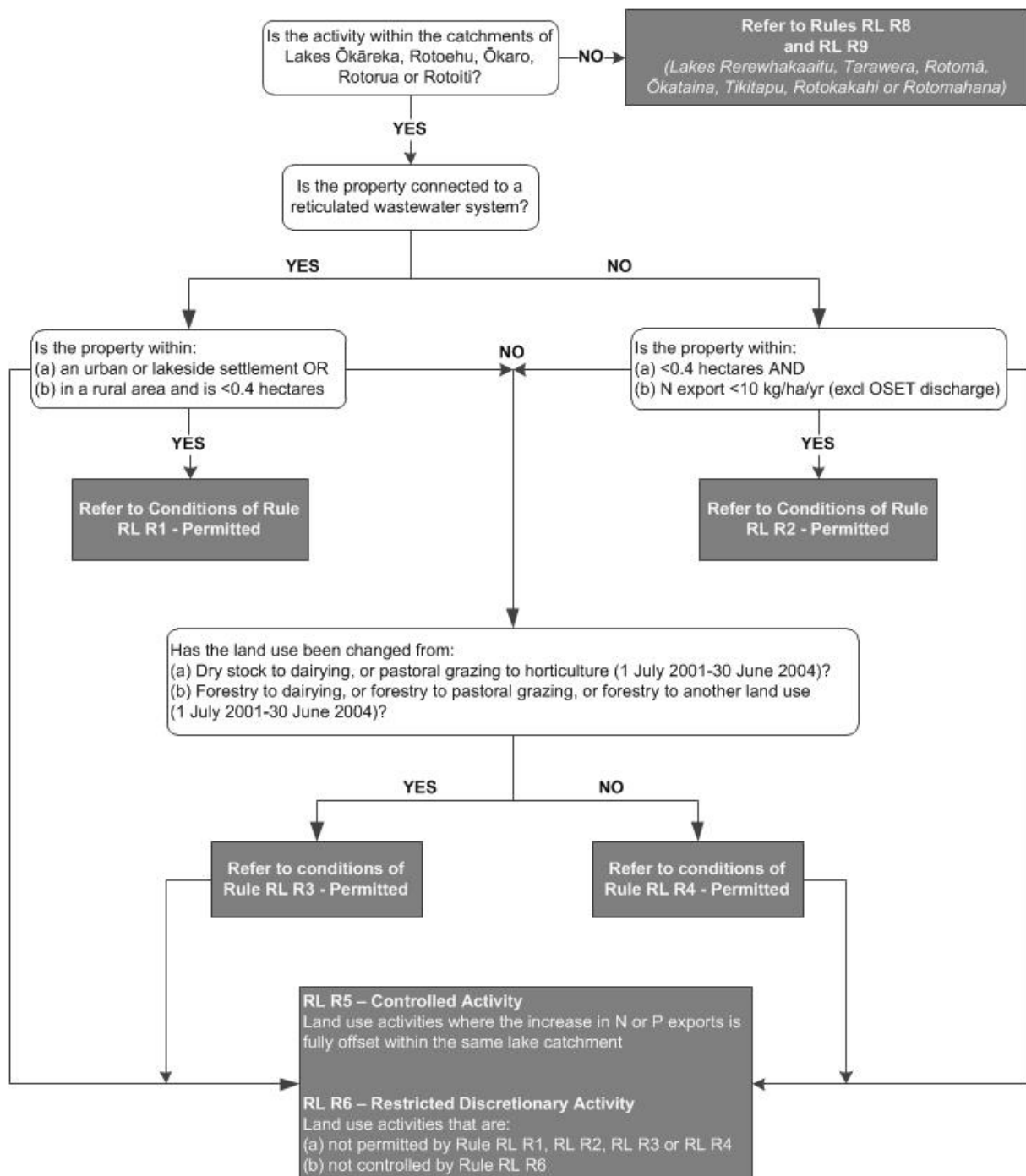
When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

Objective IM O1, LM O1, RL O1, IM O3
Policy IM P1
Method LM M9, RL M6

Explanation/Intent of Rule

To allow the Regional Council to address the effects of discharges of nitrogen and phosphorus resulting from point source discharges on lake quality. This is to minimise the input of nitrogen and phosphorus into lakes and their catchments in order to achieve the Trophic Level Indices stated in RL O1. Applicants will need to identify and apply measures to offset any increased nutrient export resulting from the proposed activity. Resource consent applications for proposed activities that increase the nitrogen or phosphorus levels in a lake catchment, after taking into account offset measures including off-site mitigation, that do not comply with the requirements of this regional plan will be declined. It is the intent of the Regional Council that the rules in this section (including RL R7) will be reviewed according to RL M2. Any changes to the rules will be through a publicly notified plan change process under the Act. Refer to Flow Diagram RL 1 to assist reading of this rule.

Flow Diagram RL 1 – Discharges and Land Use Activities in the Rotorua Lakes Catchments



Advisory Note

- 1 This flow diagram is to assist working out which rules apply but does not constitute a part of the rules. If there is any inconsistency between the flow diagram and the rules in the regional plan it refers to, the criteria in the rules prevail.

Increases in Nitrogen and Phosphorus Exports from Non-Point Source Discharges in the Catchments of Other Rotorua Lakes

RL R8 (Rule 12) Permitted – Changes in Land Use in the Catchments of Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, and Rotomahana

Any existing land use or change to a land use activity in the catchments of Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi and Rotomahana, is a permitted activity, until a plan change is initiated to include specific rules for individual lake catchments that have been identified as at risk in RL M1, or where the 3-year moving average TLI for the lake exceeds its designated TLI specified in RL O1 by 0.2 for 2 years.

Explanation/Intent of Rule

RL R8 is to signal the intent of the regional plan to include regulatory mechanisms where necessary to maintain or improve lake water quality in Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, and Rotomahana to meet the Trophic Level Indices set in RL O1. Such rules will be included in this regional plan in accordance with RL M2.

RL R9 (Rule 13) Restricted Discretionary – Changes in Land Use in the Catchments of Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, and Rotomahana

Any change to a land use activity where the proposed activity causes an increase in the export of nitrogen or phosphorus from the property in the catchments of Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi and Rotomahana, where:

- 1 The lake is identified as at risk of water quality decline in RL M1, or
- 2 The 3-year moving average TLI for the lake exceeds its designated TLI specified in RL O1 by 0.2 for 2 years;

Is a restricted discretionary activity.

This rule is not operative until a plan change is initiated to include specific rules for individual lake catchments that have been identified as at risk in RL M1, or have declining water quality as measured by lake water quality monitoring.

Explanation/Intent of Rule

RL R9 is to signal the intent of the regional plan to include regulatory mechanisms where necessary to maintain or improve lake water quality in Lakes Rerewhakaaitu, Tarawera, Rotoma, Okataina, Tikitapu, Rotokakahi, and Rotomahana to meet the Trophic Level Indices set in RL O1. Such rules will be included in this regional plan in accordance with RL M2.

LR Lake Rotorua Nutrient Management

TW Tarawera

The Tarawera River Catchment is currently managed by the Operative Regional Plan for the Tarawera River Catchment.

The following table noted the regulatory overlaps between the Regional Plan for the Tarawera River Catchment and this Regional Plan, and explains which rules apply in the Tarawera River Catchment.

Table TW 1 Relevant Rules in Tarawera River Catchment

Activity	Rule in Regional Plan for the Tarawera River Catchment	Rule in Regional Plan	Rule that applies in Tarawera River Catchment
Overhead cable or transmission line	12.2.5(b)	BW R8	12.2.5(b)
Bridge or pipe bridge	12.2.5(b)	BW R20	12.2.5(b)
Structures under the bed of the Tarawera River	12.2.5(b)	BW R9	12.2.5(b)
Other use, erection, reconstruction, placement, alteration, extension, removal or demolition of a structure in, on, under or over the bed of a river or wetland, excluding culverts, single span bridges, fords	12.2.5(b) and 12.2.5(c)	Various rules in the Beds of Water Bodies section and Wetlands section	12.2.5(b) and 12.2.5(c)
Culverts, single span bridges, fords	Defaults to Regional Land Management Plan rules	Culverts – BW R12, BW R15 Single span bridge – BW R20 Fords – BW R24	Use relevant rules in this regional plan (the Regional Land Management Plan was withdrawn once this regional plan became operative)
Other excavation, drilling, tunnelling or disturbance of the bed	12.2.5(e)	BW R36	12.2.5(e)
Reclamation or draining the bed of a river, lake or wetland	12.2.5(f)	BW R36 and WT R3	12.2.5(f)
Maintenance of an authorised structure	12.2.5(g) and 12.2.5(h)	BW R2	12.2.5(g) and 12.2.5(h)
Stock grazing on the bed of a river, lake or wetland	12.2.5(j)	Rules managing grazing and stock in the beds of surface water bodies in the Land Management section	LM R17, LM R18, BW R7, BW R38, BW R39, BW R40,
Introduction of plants into a river, lake or wetland	12.2.5(j)	BW R33 and relevant rules in the Wetlands section	12.2.5(j)
Disturbance, removal, damage, or destruction of plants in the bed of a river, lake or wetland	12.2.5(k)	BW R34 and relevant rules in the Wetlands section	12.2.5(k)
Vehicles in riparian area, margin or bed of a river, lake or wetland	12.2.5(n)	none	12.2.5(n)
Taking, diverting or	14.4.5(a)	none relevant to	14.4.5(a)

Activity	Rule in Regional Plan for the Tarawera River Catchment	Rule in Regional Plan	Rule that applies in Tarawera River Catchment
damming of surface water for purpose of maintaining water levels in specified wetlands		specified wetlands	
Taking, diverting or damming of surface water in wetland	14.4.5(b)	WT R2 or WT R3	14.4.5(b)
Taking of surface water	14.4.5(d), 14.4.5(e), 14.4.5(f) and 14.4.5(g)	Rule 41	Rule 41 – permitted takes 14.4.5(e), 14.4.5(f) and 14.4.5(g) for all other takes
Damming of water in a river or stream	14.4.5(h)	WQ R18, and WQ R21	14.5.5(h)
Discharge of contaminants to water, excluding stormwater and aerated or oxygenated water	15.8.4(m)	Various rules in the Discharges to Water and Land section	15.8.4(m) – links to water quality standards in 15.8.4(a) to (m)
Discharge of aerated or oxygenated water	15.8.4(o)	none	15.8.4(o)
Discharge of stormwater	15.8.4(p) and 15.8.4(q)	DW R20, DW R21, DW R22 DW 23	15.8.4(p) and 15.8.4(q)
Discharge of human sewage, except discharge controlled by the On-Site Effluent Treatment Plan	15.8.4(r) and 15.8.4(x)	DW R8	15.8.4(r) and 15.8.4(x)
Discharge of dye or gas	15.8.4(t)	DW R3	15.8.4(t)
Discharge of dairy effluent to water	15.8.4(v)	DW R8	15.8.4(v)
Discharge or waste where may enter groundwater	16.8.5(a)	Various rules in the Land Management section and Discharges to Water and Land section	Various rules in the Land Management section and Discharges to Water and Land section
Direct point-source injection of contaminants to groundwater	16.8.5(c)	DW R8	Rule 37, but apply 16.8.5(c) to industrial discharges
Take and use of groundwater	16.8.5(e) and 16.8.5(f)	Rule 38	Rule 38
Take and use of geothermal resources, including discharge of geothermal fluids	17.4.4(a) to 17.4.4(g)	Rules in the Geothermal Resources section	Rules in the Geothermal Resources section

RT Rangitāiki

WT Whakatāne and Tauranga

OH

Ōhiwa Harbour and Waioatahe

Ōhiwa Harbour

Objectives

OH O1 (Objective 18)

Achieve the sustainable management of riparian margins (excluding artificial watercourses, and ephemeral flowpaths), which may include retirement, in the following priority catchments:

- (a) Ōhiwa Harbour
 - (i) Harbour margins – 100% by 2012.
 - (ii) Rivers and streams in the Ōhiwa Harbour Catchment, excluding the Nukuhou River - 75% by 2012.
 - (iii) Nukuhou River – 90% by 2012.
 - (iv) Harbour margins and all rivers and streams in the catchment – 100% by 2020.

WO Waioeka and Otara

EC East Coast

Motu River and Specified Tributaries

Rules

EC R1 (Rule 49) Prohibited – Damming, Diversion, Take and Use of Water, and Discharges to the Motu River and Specified Tributaries

The:

- 1 Damming or diversion of water.
- 2 Take and use of water, excluding the take and use of water for purposes of:
 - (a) An individual's reasonable domestic needs, or
 - (b) The reasonable needs of an individual's animals for drinking water, or
 - (c) Firefighting.
- 3 Discharge of water to water, contaminants to water, or contaminants onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from the contaminant) entering water.

Is a prohibited activity in the following rivers and streams:

- (a) Motu River, from the Motu Falls (NZMS 260 X16 123 179) to the State Highway 35 Bridge inclusive.
- (b) Waitangirua Stream.
- (c) Mangaotane Stream.
- (d) Te Kahika Stream.
- (e) Mangatutara Stream.
- (f) Takaputahi River below the confluence with the Whitikau Stream.

Unless the activity is:

- (g) The maintenance of State Highway 35, including any bridge over the Motu River that forms part of the State Highway.
- (h) Soil conservation works and related matters undertaken in accordance with the Soil Conservation and Rivers Control Act 1941.

Explanation/Intent of Rule

This rule is consistent with the National Water Conservation (Motu River) Order 1984, and is to clarify that the Regional Council will not consent the specified activities in the catchment. Activities excluded by conditions (g) and (h) are subject to the other rules in this regional plan.

Contents

GR Geothermal Resources	1
Issues	1
Objectives	4
Policies	4
Methods of Implementation	9
Rules	14

GR Geothermal Resources

The explanation/principal reasons for the provisions in this section have been moved to Appendix 1.

The provisions in this chapter do not apply to geothermal water, heat or energy within the area covered by the Operative Rotorua Geothermal Regional Plan (refer to Map GR 1). The control of activities associated with the abstraction of geothermal water, heat or energy on the seaward side of mean high water spring is addressed under the provisions of the Bay of Plenty Regional Coastal Environment Plan.

Provisions relating specifically to geothermal water alone are contained within this section, while those applying to fresh water are contained within the Discharges to Water and Land section and Water Quantity and Allocation section of this regional plan. However, the provisions of those sections should be referred to where activities will affect both geothermal water and fresh water.

Geothermal Resources

Issues

GR I1 (Issue 48) **Geothermal values, surface features, and geothermal ecosystems can be degraded by inappropriate development of geothermal fields.**

Para 1 Geothermal fields in the Bay of Plenty region are part of the Taupo Volcanic Zone, and have the following values:

- (a) Outstanding natural features and landscapes. On a national and international scale, high temperature (>70 degrees Celsius) geothermal fields and associated geothermal surface features are rare geological features.
- (b) Intrinsic and amenity values of geothermal surface features and ecosystems. Geothermal surface features have iconic status to residents of the Bay of Plenty and wider New Zealand.
- (c) Significant indigenous geothermal vegetation, geothermal ecosystems, and indigenous biological diversity. High temperature fields give rise to geothermal ecosystems, which are highly valued for their indigenous biological diversity. Geothermal ecosystems have adapted to extremes of temperature, pH, chemical composition and toxicant levels. Each area may be more than several hectares, and may contain species unique to that site.
- (d) Maori cultural values and traditional uses, and taonga. Iwi have documented their knowledge and understanding of geothermal surface features and expressed this through myth, legend, oral history, and latterly, in written form.

Objective GR O2, GR O3, GR O4

Policy GR P1, GR P2, GR P3, GR P4, GR P9, GR P10, GR P13, GR P14

Method GR M3, GR M5, GR M6, GR M8, GR M11, GR M12, GR M13, GR M14

Rule GR R1, GR R2, GR R3, GR R4, GR R5, GR R6, GR R7, GR R8, GR R9

GR I2 (Issue 49) **Land use and development over or near geothermal surface features may have the following adverse effects:**

- (a) Expose the community to geothermal hazards,
- (b) Degrade geothermally dependent ecosystems, and
- (c) Degrade or destroy geothermal surface features and taonga.

The causes of this issue are:

- 1 Inappropriate land use and development, including the infilling of geothermal surface features.
- 2 Land use development in areas on or near active or dormant geothermal surface features. Dormant geothermal surface features may become active due to large scale geologic movements, or as a result of human activities.

This is a risk management issue, which is particularly relevant in high-temperature (>70 degrees Celsius) geothermal fields.

Objective GR O3, GR O7
Policy GR P2, GR P14
Method GR M3, GR M5, GR M6, GR M11, GR M12
Rule GR R9

GR I3 (Issue 50) **Geothermal fluid contains toxic components and the discharge of such fluids to the environment can:**

- (a) Contaminate water and soil resources.
- (b) Damage aquatic or terrestrial ecosystems.
- (c) Lead to flooding of a geothermal surface feature, taonga, or a geothermal ecosystem.

The effects on the environment from the discharge of used geothermal fluid depends on the physical characteristics or chemistry of the geothermal fluid, and the sensitivity of the receiving environment.

Objective GR O5
Policy GR P1, GR P6
Method GR M1
Rule GR R9

GR I4 (Issue 51) **The drilling and construction of geothermal bores can:**

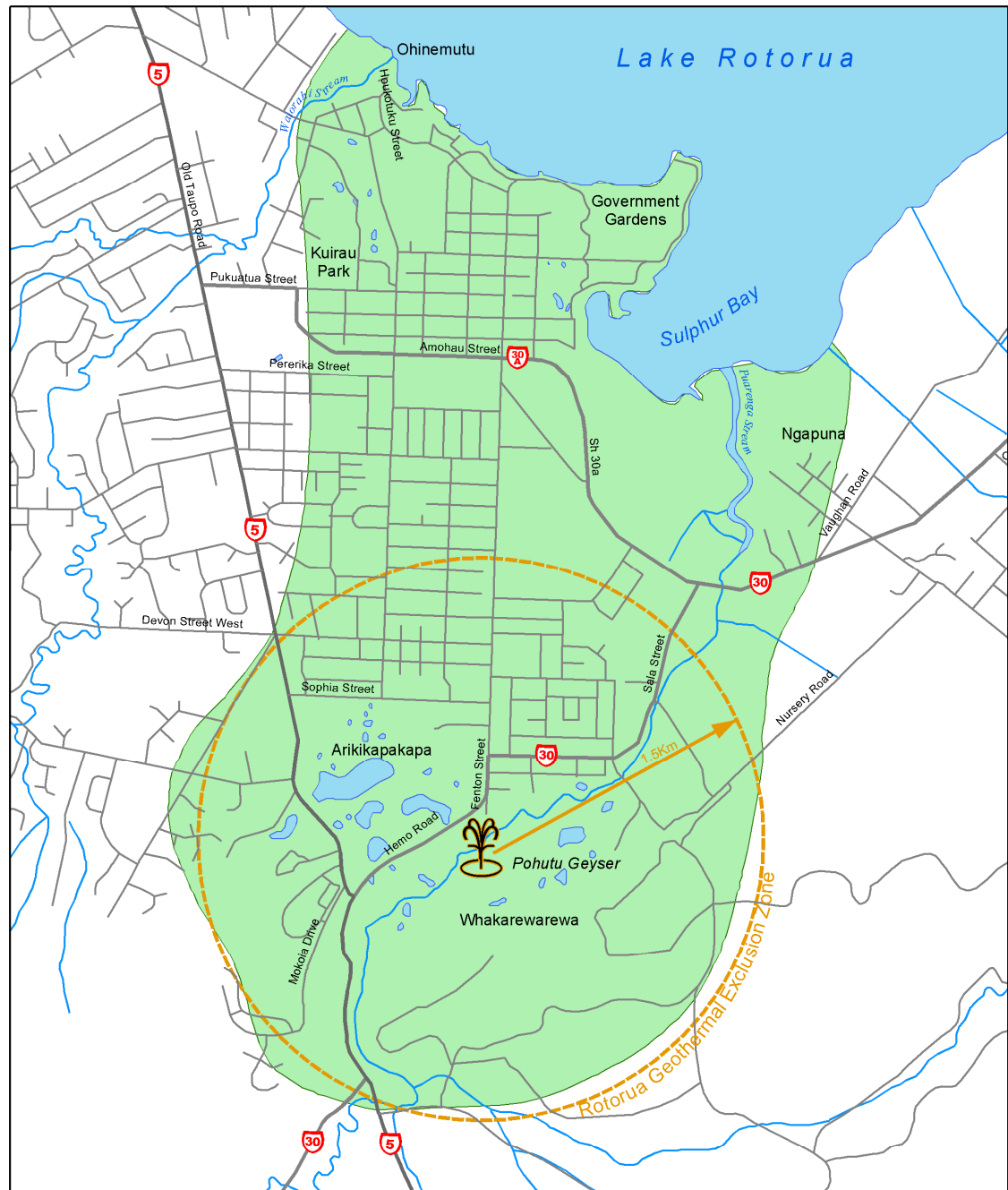
- (a) Degrade natural field characteristics, including field pressure,
- (b) Cross contaminate freshwater groundwater and geothermal aquifer systems,
- (c) Contaminate water and soil resources as a result of the discharge of drilling fluids, and uncontrolled discharges from blowouts from bore construction, and
- (d) Adversely affect existing users of the resource.

Objective GR O6
Policy GR P1, GR P2, GR P11, GR P12
Method GR M10
Rule GR R4, GR R5, GR R6, GR R7

GR I5 (Issue 52) **The damming and diversion of geothermal water may degrade geothermal surface features, ecosystems and taonga.**

Objective GR O1, GR O3, GR O4
Policy GR P1, GR P3, GR P4, GR P9
Method GR M13
Rule GR R8

Map GR 1 – Rotorua Geothermal Field as Covered by the Rotorua Geothermal Regional Plan



- Road
- State highway
- River
- Exclusion zone
- Rotorua geothermal field indicative area
- Lake

1 0 1
Kilometres

This map shows an interpretation of the geothermal features of the Rotorua area. The small scale of this map has necessitated the omission of some small features and the exaggeration of others in the interests of clarity. This map should not be used for any work where specific investigations should be made.

23/06/2003 **C1784**



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GR I6 (Issue 53)

The take of geothermal water, heat or energy may deplete the geothermal field, and degrade geothermal surface features, ecosystems and taonga.

A contributing factor to this issue may be the lack of community awareness about the possible adverse effects of the use of geothermal resources, and the finite characteristics of the resource.

Objective GR O1, GR O4, GR O8
Policy GR P1, GR P3, GR P4, GR P5, GR P7, GR P8, GR P10
Method GR M2, GR M3, GR M4, GR M5, GR M7, GR M8, GR M9, GR M10, GR M13, GR M14
Rule GR R1, GR R2, GR R3

Objectives

- GR O1 (Objective 65) Sustainable use and development of geothermal water, heat and energy with regard to the effects on geothermal surface features and ecosystems, and individual field characteristics.
- GR O2 (Objective 66) Significant geothermal features are protected from inappropriate use and development.
- GR O3 (Objective 67) Protection of significant indigenous geothermal ecosystems.
- GR O4 (Objective 68) Preservation of outstanding geothermal surface features.
- GR O5 (Objective 69) The reinjection of abstracted geothermal water into the same geothermal field from which it came, subject to an assessment of effects.
- GR O6 (Objective 70) Geothermal bores are constructed to appropriate drilling standards.
- GR O7 (Objective 71) Avoidance or mitigation of the effects of natural geothermal hazards.
- GR O8 (Objective 72) Efficient use of geothermal resources.

Policies

- GR P1 (Policy 119) To manage effects of the use and development of geothermal resources according to the following:

Table GR 1 Management of the Effects of the Use and Development of Geothermal Resources

	Issue	Policy
(a)	Geothermal surface features	(i) To preserve outstanding geothermal surface features. (ii) To protect geothermal taonga that have been identified and named by tangata whenua, and have special value. (iii) To protect significant geothermal surface features from inappropriate use and development. (iv) To protect significant indigenous geothermal ecosystems. This is subject to the Geothermal Management Group protection levels in GR P3.
(b)	Precautionary approach	(i) To constrain resource allocation based on the level of understanding of field dynamics and resource availability. This may include staged development of a field. (ii) To take into account the level of knowledge available, while recognising that perfect knowledge of the effects of geothermal resource use is not possible.
(c)	Efficient use	(i) To require the use of any geothermal water, heat or energy to be efficient. (ii) To promote multiple use of extracted resources, where this does not compromise reinjection. Note: – the efficient use of geothermal water, heat or energy will be assessed on a case by case basis.

	Issue	Policy
(d)	Users of the resource	To promote the integrated management of each individual geothermal field, including allowing, where appropriate, consortia or a single body to take and use geothermal resources from any one field. The appropriateness of multiple users, a single tapper, or a consortia, will be assessed on a case by case basis relative to the sustainable use of the individual field, including effects on existing users of the field.
(e)	Discharge of geothermal fluid	To actively encourage geothermal water to be reinjected into a geothermal reservoir, where appropriate to the circumstances and subject to an assessment of effects.
(f)	Geothermal abstraction	To recognise that: <ul style="list-style-type: none"> (i) Geothermal development can result in land subsidence. (ii) Geothermal resources are renewable, but limited resources, and have some finite characteristics similar to minerals.
(g)	Activities ancillary to geothermal abstraction and use	To sustainably manage the effects of ancillary activities.

GR P2 (Policy 120) To require the use and development of geothermal resources of the region to sustain the potential of the resources for the reasonably foreseeable needs of future generations.

GR P3 (Policy 121) To use the following Geothermal Management Groups to guide decisions on the take, use, damming and diversion of geothermal water, heat and energy:

1 Geothermal Management Group 1

>70 degrees Celsius, outstanding geothermal surface features, little or no development.

Protected geothermal systems – Complete preservation of the outstanding natural, intrinsic, scenic, cultural, heritage and ecological values of the following geothermal resources:

- (a) Waimangu/Rotomahana/Tarawera
- (b) Whakaari (White Island)
- (c) Moutohora Island (Whale Island)

2 Geothermal Management Group 2

>70 degrees Celsius, outstanding or significant geothermal surface features, high level of development.

- (a) Rotorua

Note: Management Group 2 is covered by the Operative Rotorua Geothermal Regional Plan, refer to that plan for policies and rules regarding the Rotorua geothermal field.

3 Geothermal Management Group 3

>70 degrees Celsius, significant geothermal surface features, unmodified fields.

High temperature geothermal systems available for sustainable use and development – The use (including abstraction) of geothermal water, heat and energy where significant geothermal surface features and geothermal ecologies are protected, and the adverse effects of the activity can be avoided, remedied or mitigated. It is recognised that the protection of significant geothermal surface features and ecologies is the major constraint on the development of these geothermal resources:

- (a) Tikitere/Ruahine
- (b) Taheke
- (c) Rotokawa/Mokoia Island
- (d) Rotoma/Tikorangi

Note – These fields contain significant geothermal features or ecologies. Resource consent applicants are to assess the scale and magnitude of the effects of a proposed activity on features and ecologies, and assess the significance of individual features and ecologies using the requirements of the Bay of Plenty Regional Policy Statement.

4 Geothermal Management Group 4

>70 degrees Celsius, few or no geothermal surface features, high to no modification of field

High temperature geothermal systems available for sustainable use and development – The use (including abstraction) of geothermal water, heat and energy where the adverse effects of the activity can be avoided, remedied or mitigated:

- (a) Kawerau
- (b) Lake Rotoiti (outflow is in the bed of Lake Rotoiti)
- (c) Rotoma/Puhi Puhi

5 Geothermal Management Group 5

30-70 degrees Celsius, few or no geothermal surface features.

Low temperature geothermal systems available for sustainable use and development – The use (including abstraction) of geothermal water, heat and energy where the adverse effects of the activity can be avoided, remedied or mitigated, while recognising that the discharge of geothermal fluid is the major constraint on the development of these geothermal resources:

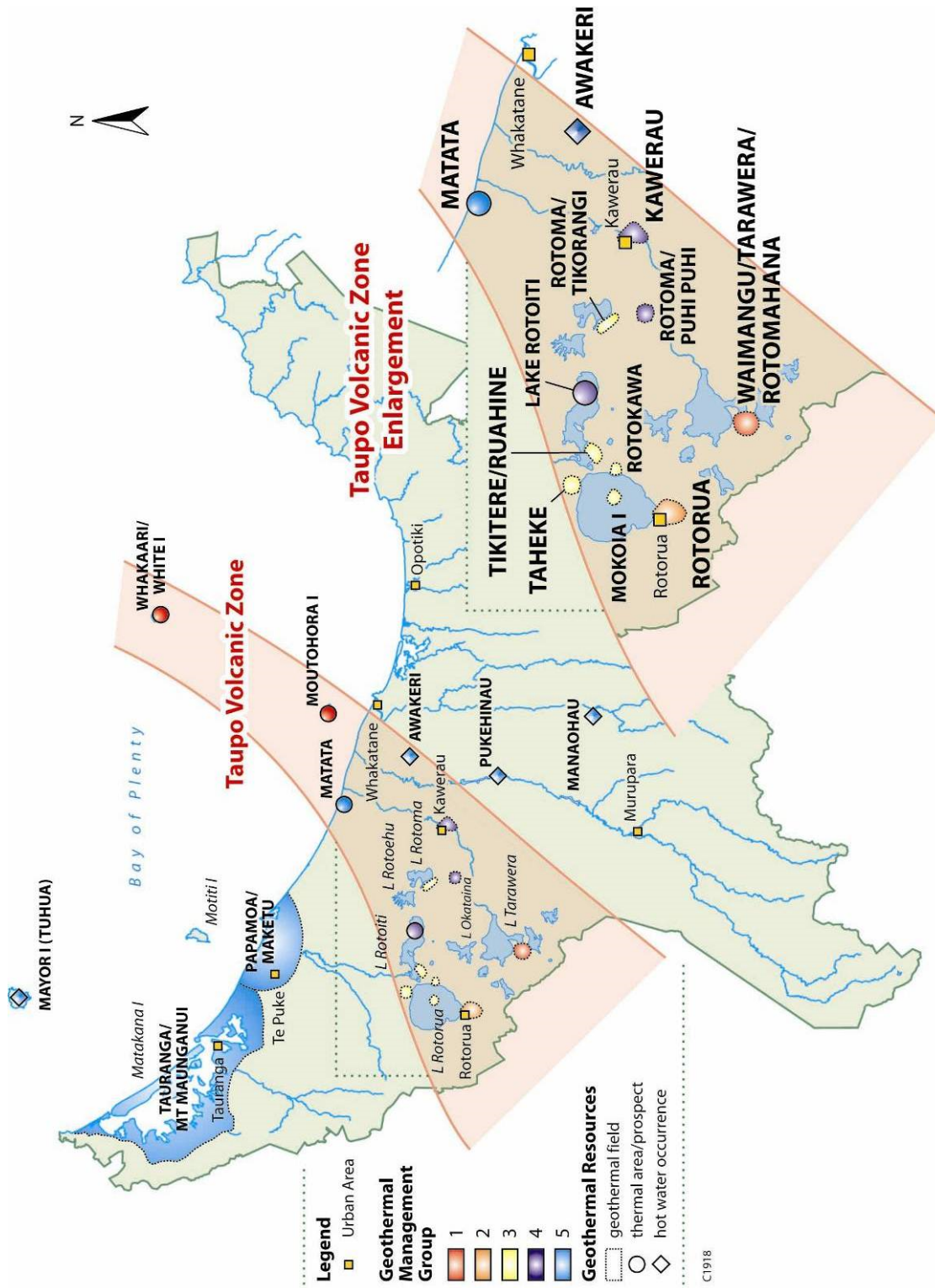
- (a) Mayor Island (Tuhua)
- (b) Tauranga/Mount Maunganui (Mauao)
- (c) Papamoa/Maketu
- (d) Matata (prospect)
- (e) Awakeri
- (f) Pukehinau
- (g) Manaohau

Refer to Map GR 2 for the location of geothermal fields in the Bay of Plenty.

GR P4 (Policy 122)

To assess any new geothermal fields that are identified in the Bay of Plenty region to determine its Geothermal Management Group classification. To not allow development of a newly discovered field until it has been classified in an appropriate Geothermal Management Group. This can occur as part of the resource consent process.

Map GR 2 – Geothermal Fields in the Bay of Plenty



GR P5 (Policy 123) To allocate geothermal water, heat and energy according to GR P1 and GR P2, and the following:

Table GR 2 Geothermal Resource Allocation Methodology

	Issue	Policy
(a)	Efficient use	To require the efficient use of geothermal water, heat and energy by individual geothermal abstractions to ensure the amount allocated in terms of energy or heat (thermal) equivalents does not exceed an amount adequate to service the use sought. Note: – the efficient use of geothermal water, heat or energy will be assessed on a case by case basis.
(b)	First in first served basis	To allocate geothermal water, heat and energy on a first in first served basis while ensuring efficient use as defined in (a).
(c)	Tradable permits	To consider the use of tradable permits in geothermal fields where there is a high demand for geothermal water, heat and energy.

GR P6 (Policy 124) To manage the discharge of geothermal water according to GR P1 and GR P2 and the following:

Table GR 3 Management of the Discharge of Geothermal Water

	Issue	Policy
(a)	Reinjection	(i) To prefer reinjection where practicable and appropriate to the production method, field characteristics, and safety considerations. (ii) To encourage reinjection to occur at a location and/or depth where the temperature is similar to that of the discharge, unless alternatives are scientifically justified. (iii) To avoid, remedy or mitigate the adverse effects of reinjection on fresh water bodies.
(b)	Discharge to water	To allow the discharge of geothermal water to water only where: (i) The discharge of fluid is into the resource from which the fluid was originally extracted, or (ii) The discharge of fluid is to a surface or groundwater body that is geothermal or naturally influenced by geothermal inputs, or (iii) The effect on the environment is minor.
(c)	Discharge to land soakage	To manage discharges of geothermal water into and onto land by soakage to avoid, remedy or mitigate adverse effects on the environment, where the discharge: (i) Is at a location where groundwater is either geothermal or influenced by natural geothermal inputs. (ii) Is at a rate that allows for the soakage of the water into the ground, avoids flooding and erosion or scour. (iii) Is controlled to avoid adverse effects on infrastructural assets.

GR P7 (Policy 125) To recognise and provide for the use of geothermal water, heat and energy by tangata whenua in accordance with tikanga Maori and section 14(3)(c) of the Act.

GR P8 (Policy 126) To gather and maintain sufficient quality information to enable the effective management of geothermal resources, including contemporary modelling data where appropriate.

GR P9 (Policy 127) To manage the damming and diversion of geothermal water to avoid, remedy or mitigate adverse effects on the environment.

GR P10 (Policy 128) To raise community awareness of:

- (a) The finite availability of geothermal water, heat and energy.
- (b) The long-term effects of depletion of geothermal resources.

- (c) The vulnerability of geothermally-dependant ecologies to adverse effects.
 - (d) Geothermal hazards.
- GR P11 (Policy 129) To require the use of National Drilling Standards³² for the drilling and installation of geothermal bores.
- GR P12 (Policy 130) To require bore log information to be collected and provided to the Regional Council for the purpose of establishing an accurate record of geothermal resources in the region.
- GR P13 (Policy 131) To identify geothermal surface features, ecosystems and taonga, the significance of such features and establish the degree of protection needed.
- GR P14 (Policy 132) To work with city and district councils to avoid or mitigate the effects of geothermal hazards by:
- (a) Encouraging land use and development to avoid areas with a high risk of geothermal hazard.
 - (b) Requiring land users and developers take effective measures to remedy or mitigate the adverse effects of geothermal hazards at sites that have a high actual or potential geothermal hazard risk.
 - (c) Assisting city and district councils to control the effects of geothermal hazards on the community.
 - (d) Supplying city and district councils with information on geothermal hazards where this is available.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

- GR M1 (Method 240) Produce an information leaflet on the guidelines for the discharge of geothermal fluid in Management Group 5 areas. This may be carried out in conjunction with relevant city and district councils.
- GR M2 (Method 241) Promote measures to ensure the efficient use of geothermal water, heat and energy, including:
- (a) Measures for the optimum value usage from extracted geothermal water, heat and energy, such as:
 - (i) The secondary use of extracted heat and water (cascade use), and
 - (ii) The extraction of useable by-products (such as minerals) from water prior to reinjection or other discharge to the environment.
 - (b) Encouraging organisations, industry groups and individuals to develop ways in which their geothermal takes can be reduced through the adoption of good management practices.
 - (c) The use of down-hole heat exchangers.
- GR M3 (Method 242) In conjunction with city and district councils, raise community awareness and understanding of geothermal resources and hazards using appropriate education and promotion techniques and mechanisms, including those listed in the Environment Bay of Plenty Environmental Education Strategy for Environment Bay of Plenty 1999-2005³³.
- GR M4 (Method 243) Advise tangata whenua that a consent is not needed where section 14(3)(c)

³² NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock. Standards New Zealand, Wellington.

³³ Environment Bay of Plenty, 1999. Environmental Education Strategy for Environment Bay of Plenty 1999-2005 – Learning for a Sustainable Environment.

of the Act allows for the take and use of geothermal water, heat or energy where it is taken and used in accordance with tikanga Maori for the communal benefit of tangata whenua in the area and the activity does not have an adverse effect on the environment.

Working with Other Resource Management Agencies and the Community

GR M5 (Method 244)

In conjunction with city and district councils, agencies and interest groups (including the Department of Conservation), tangata whenua having local geothermal rangatiratanga, and the community, establish and maintain a register of all natural geothermal surface features and associated natural ecosystems. The register will:

- (a) Identify, catalogue and describe each natural surface feature and its association to groups of geothermal surface features.
- (b) Include natural ecologies associated to or dependent upon surface feature activity.
- (c) Name geothermal taonga identified by tangata whenua, where acceptable to tangata whenua.
- (d) Include both active and inactive natural geothermal surface features.
- (e) Assess and describe the sensitivity of each natural surface feature to field pressure change and land development, and the protective measures needed to ensure the feature is sustained.
- (f) Include a description of any historic and cultural associations to each feature with respect to its heritage value.
- (g) Include, as practicable, quality scientific information relevant to each feature, in particular an assessment of outflow rates of geothermal fluid.
- (h) Include location maps and other information presentations to ensure that the register can provide 'user friendly' quality information and be an effective planning device for developers and the public.
- (i) Identify those surface features and ecologies that are considered to be outstanding or significant.
- (j) Assist in hazard management by identifying surface features that may cause a hazard to the community.
- (k) Identify the degree of protection needed for significant geothermal surface features.

Advocacy

GR M6 (Method 245)

Advocate that city and district councils develop suitable provisions for inclusion in District Plans, which will:

- (a) Protect geothermal surface features and associated ecologies from the effects of land use development.
- (b) Provide a buffer zone between land use and development, and geothermal hazards.
- (c) Provide for the formal assessment of the effects on the cultural, spiritual, ecological, intrinsic, scientific and natural heritage values of geothermal resources that may occur as a result of subdivision and land use development.
- (d) Restrict land use developments where there is a risk of exposure to geothermal hazards, or where land use development may increase the risk of geothermal hazards.
- (e) Require resource consent applicants to include an assessment of geothermal hazard risk for any land use and development over or adjacent to geothermal resources, sites or features.
- (f) Administer the following activities as discretionary activities:
 - (i) Any interference with the physical structure of a geothermal surface features, and
 - (ii) Any destruction of a geothermal surface feature, including

- excavation, and
- (iii) Any placement or deposition of any substance, including fill or waste materials, on, into or under any geothermal surface feature.

Regulatory Methods

Cross-Reference

Also refer to LM M17, LM M18.

Matters Relevant to Resource Consent Applications and Processing

GR M7 (Method 246) Protect commercially sensitive information relating to the use and development of geothermal resources, in accordance with section 42 of the Act.

GR M8 (Method 247) Require resource consent applicants to provide the following information, where the information is appropriate to the scale and significance of effects that the proposed activity may have on the environment:

- (a) Modelling and research data relating to the potential of the field and its characteristics and values.
- (b) The amount of geothermal resource available for allocation from the field.
- (c) The extent of geothermal surface features and associated ecosystems.

The information is to be provided in such detail as corresponds to the scale and effects of the activity. This may require staged exploration and testing prior to any development.

Note: Information on geothermal surface features and associated ecosystems, and their values, may be contained in a register implemented under GR M5.

GR M9 (Method 248) As part of the assessment of a resource consent application for the use or development of geothermal resources, consider:

- (a) Requiring geothermal field development to be staged in order to establish field characteristics prior to full development, where appropriate to the scale and effects of the activity.
- (b) Establishing, and as appropriate reviewing, the amount of geothermal resource available for allocation from the field as this relates to the sustainable use and development of the field. This may include establishing appropriate limits to allow for natural, seasonal or other variation in field water levels and pressure.

GR M10 (Method 249) Use resource consent conditions to require persons who take and use geothermal water, heat or energy to:

- (a) Install devices to ensure the efficient use of geothermal water, heat or energy where the abstracted amount in terms of energy or heat (thermal) equivalents does not exceed an amount adequate to service the use. This is to ensure the wastage of geothermal water, heat or energy is minimised.
- (b) Measure their use of geothermal water, heat or energy.
- (c) Measure the loss in field pressure resulting from the activity, where appropriate.
- (d) Minimise heat loss from extracted geothermal water, heat or energy by:
 - (i) Using an appropriate method to take and use geothermal water, heat or energy to minimise the heat loss from the abstracted water, heat or energy.

- (ii) Installing and adequately controlling appropriate heat transfer equipment.
- (iii) Insulating mass and heat abstraction and exchanger systems and associated pipework, where appropriate.
- (iv) Effectively maintaining the heat exchange and reticulation system.
- (e) Ensure that the borehead design and construction includes a manual bore control valve and provide for the installation of an orifice plate and water meter after the bore control valve, where practicable.
- (f) Keep records of the takes of geothermal heat, fluid and energy for each geothermal field for the purposes of monitoring the effects of takes on the resource, and to aid the formulation of geothermal field models, where appropriate.
- (g) Provide the Regional Council with geothermal bog lore information.
- (h) Monitor subsidence where appropriate.

GR M11 (Method 250) Consider issuing a resource consent for multiple drilling sites within a defined area where an existing resource consent is held for the use and development of a geothermal field. The drilling consent will address the protection of geothermal surface features in accordance with GR P1 and GR P3; compliance with GR P11 and GR P12; and address adverse effects on other users of the field.

GR M12 (Method 251) Consider issuing composite consents for the development and use of geothermal resources, which will cover all relevant activities restricted by rules in this section of the regional plan.

Monitoring and Investigation of the Environment

GR M13 (Method 252) Determine the Geothermal Management Group classification of any new geothermal fields identified in the Bay of Plenty Region according to the following criteria:

Table GR 4 Classification of Geothermal Fields

	Geothermal Management Group	Geothermal Surface Features	Field Development	Field Temperature as measured at depth
(a)	Geothermal Management Group 1	Contains outstanding geothermal surface features. Contains significant indigenous geothermal ecosystems. Surface features and indigenous geothermal ecosystems may be of national or international importance.	The field has no or little development.	Hot (>70° Celsius)
(b)	Geothermal Management Group 2	Contains significant surface features, outstanding natural features, unique ecosystems, or significant indigenous vegetation. Surface features may be of national or international importance.	Field has been extensively developed to the detriment of the surface features, and should be restored.	Hot (>70° Celsius)

	Geothermal Management Group	Geothermal Surface Features	Field Development	Field Temperature as measured at depth
(c)	Geothermal Management Group 3	Contains significant surface features, or significant indigenous geothermal ecosystems. The significance of individual surface features in the field, and the effects on those features will be assessed using the Criteria for Assessing Specified Matters in the Bay of Plenty Region in the Bay of Plenty Regional Policy Statement.	Field has little or no development.	Hot (>70° Celsius)
(d)	Geothermal Management Group 4	Has few or no geothermal surface features.	High, little or no development.	Hot (>70° Celsius)
(e)	Geothermal Management Group 5	Has few or no geothermal surface features, may include springs.	Some development, depending on location and temperature.	Warm (>30 and <70° Celsius)

Notes:

The classifications for geothermal fields in the Bay of Plenty region are:

1 Geothermal Management Group 1:

- (a) Waimangu/Rotomahana/Tarawera
- (b) Whakaari (White Island)
- (c) Moutohora Island (Whale Island)

2 Geothermal Management Group 2:

- (a) Rotorua

3 Geothermal Management Group 3:

- (a) Tikitere/Ruahine
- (b) Taheke
- (c) Rotokawa/Mokoia Island
- (d) Rotoma/Tikorangi

4 Geothermal Management Group 4:

- (a) Kawerau
- (b) Lake Rotoiti
- (c) Rotoma/Puhi Puhi

5 Geothermal Management Group 5:

- (a) Mayor Island (Tuhua)
- (b) Tauranga/Mount Maunganui (Mauao)
- (c) Papamoa/Maketu
- (d) Matata (prospect)

- (e) Awakeri
- (f) Pukehina
- (g) Manaohau

GR M14 (Method 253)

Continue to monitor the state of geothermal resources in the Bay of Plenty in accordance with the Regional Council's NERMN, and existing compliance and impact monitoring programmes.

Rules

Advisory Note

- 1 The rules in this section do not apply to Geothermal Management Group 2 – Rotorua field, which is covered by provisions in the Operative Rotorua Geothermal Regional Plan³⁴.

Take and Use

GR R1 (Rule 72)

Permitted – Take and Use of Geothermal Water, Heat or Energy in Accordance with Tikanga Maori

The take and use of geothermal water, heat or energy, where:

- 1 The geothermal water, heat or energy is taken or used in accordance with tikanga Maori for the communal benefit of tangata whenua of the area, and
- 2 The activity does not have an adverse effect on the environment,

Is a permitted activity.

Explanation/Intent of Rule

To allow the take and use of geothermal resources in accordance with tikanga Maori, which is provided for by section 14(3)(c) of the Act.

GR R2 (Rule 73)

Discretionary – Take and Use of Geothermal Water, Heat or Energy

The take and use of geothermal water, heat or energy, that:

- (a) Is not prohibited by GR R3 in this regional plan, or
- (b) Is not provided for under section 14(3)(c) of the Act, or
- (c) Is not otherwise regulated by the Rotorua Geothermal Regional Plan, or
- (d) Is not otherwise provided for by GR R5,

Is a discretionary activity.

Advisory Note

- 1 This rule includes the extraction of heat from a down hole heat abstraction system.
- 2 The take and use of geothermal water, heat or energy in Management Group 2 areas is covered by the Rotorua Geothermal Regional Plan (refer to Map GR 2).

³⁴ Environment Bay of Plenty, 1999. Operative Rotorua Geothermal Regional Plan.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of the take and use of geothermal resources on a case by case basis, where the activity is likely to cause more than minor effects. There is insufficient information on geothermal resources to use less restrictive approaches. Geothermal Management Group 4 areas are included in this rule as falling aquifer levels due to over-abstraction have been evident in the past, which indicates that the effects of the take and use of warm water must be restricted to avoid adverse effects on the resource.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	<i>KT O4, KT O5, KT O6, IM O1, GR O1, GR O4, GR O8</i>
<i>Policy</i>	<i>KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, GR P1, GR P3, GR P5</i>
<i>Method</i>	<i>KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12, GR M2, GR M7, GR M8, GR M9, GR M10</i>

GR R3 (Rule 74) Prohibited – New or Increased Take and Use of Geothermal Water, Heat or Energy in Geothermal Management Group 1 Areas

Any new or increased take and use of geothermal water, heat or energy in Geothermal Management Group 1 area that:

- 1 Does not comply with section 14(3)(c) of the Act, or
- 2 Is not for monitoring or scientific research purposes and provided for in GR R5.

Is a prohibited activity.

Explanation/Intent of Rule

To prohibit new or increased takes which are not provided for in section 14(3)(c) of the Act (i.e. cultural uses of tangata whenua), or are not for monitoring and scientific purpose. GR R3 is necessary to preserve the outstanding geothermal surface features and other values of Geothermal Management Group 1 areas. The installation and use of geothermal bores for monitoring or scientific research purposes in Geothermal Management Group 1 areas is covered by GR R5.

Geothermal Bores**GR R4 (Rule 75) Restricted Discretionary – Installation of Geothermal Bores in Geothermal Management Group 5, and Take and Use of Geothermal Water, Heat or Energy for Bore Testing**

The:

- 1 Drilling, construction and installation of any new bore or replacement bore for the purposes of obtaining geothermal water, heat or energy and taking of geothermal water for bore testing, or
- 2 Drilling, construction or installation of any reinjection bore,

including the take and use of water (including geothermal water), heat or energy for bore testing, and discharge of drilling fluids, where the activity is in a Geothermal Management Group 5 area, is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Location of the bore.
- (b) Construction and development of the bore.
- (c) Bore log information.
- (d) Compliance with the National Drilling Standards 2001³⁵.
- (e) Effects on existing bores.
- (f) Pump and bore testing information.
- (g) Administration charges under section 36 of the Act.
- (h) Any financial contribution required under Appendix 2 of this regional plan.

Advisory Note

- 1 The installation of geothermal bores must also comply with Occupational Safety and Health regulations.

Explanation/Intent of Rule

To restrict the installation of geothermal bores in Geothermal Management Group 5 areas, while restricting the Regional Council's discretion only to those matters that are of concern in Geothermal Management Group 5 areas. It is an approach that recognises that installation of bores in warm water areas (<70 degrees Celsius) has a lower risk of causing adverse effects on the environment and affected parties than in Geothermal Management Group 1, 2, 3 and 4 areas (>70 degrees Celsius).

GR R5 (Rule 75A) Restricted Discretionary – Monitoring Bores in Geothermal Management Group 1 Areas

The:

- 1 Drilling, construction and installation of any new bore or replacement bore for the purposes of monitoring or scientific research purposes; and
- 2 Take and use of geothermal water, heat or energy for bore testing, and monitoring, or scientific research purposes; and
- 3 Discharge of drilling fluids; and
- 4 Discharge of geothermal fluid,

where the activity is in a Geothermal Management Group 1 area, and the purpose of the bore and take of geothermal resources is for monitoring or scientific research purposes is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Location of the bore.
- (b) Construction and development of the bore.
- (c) Bore log information.
- (d) Compliance with the National Drilling Standards 2001³⁶.
- (e) Effects on existing bores.
- (f) Pump and bore testing information.
- (g) Measures to protect outstanding natural features, landscapes, significant indigenous vegetation and significant habitats of indigenous fauna.
- (h) The volume of geothermal resource abstracted.
- (i) Measures to protect geothermal taonga.
- (j) Measures to avoid, remedy or mitigate adverse effects from the discharge of geothermal fluid.
- (k) The rate of take of geothermal resources.
- (l) Duration of monitoring or scientific investigation.
- (m) Administration charges under section 36 of the Act.

³⁵ NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock. Standards New Zealand, Wellington

³⁶ NZS 4411:2001 Environmental Standard for Drilling of Soil and Rock. Standards New Zealand, Wellington.

Explanation/Intent of Rule

To provide for the installation of geothermal bores (and associated activities) for environmental monitoring or scientific research purposes in Geothermal Management Group 1 areas. GR R5 links to GR R3.

GR R6 (Rule 75B) Restricted Discretionary – Monitoring Bores in Geothermal Management Group 3 and 4 Areas

The:

- 1 Drilling, construction and installation of any new bore or replacement bore for monitoring purposes;
and
- 2 Take and use of geothermal water, heat or energy for monitoring purposes; and
- 3 Discharge of drilling fluids; and
- 4 Discharge of geothermal fluid,

Where the activity is in a Geothermal Management Group 3 or 4 area, and the purpose of the bore and take of geothermal resources is for monitoring purposes is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) Location of the bore.
- (b) Construction and development of the bore.
- (c) Bore log information.
- (d) Compliance with the New Zealand Standard: Code of Practice for Deep Geothermal Wells (NZS 2403:1991), or Health and Safety Guidelines for Shallow Geothermal Wells (Ministry of Commerce, 1996) whichever is applicable.
- (e) Effects on existing bores.
- (f) Pump and bore testing information.
- (g) Measures to protect outstanding natural features, landscapes, significant indigenous vegetation significant habitats of indigenous faunas, and geothermal surface features.
- (h) The volume of geothermal resource abstracted.
- (i) Measures to protect geothermal taonga.
- (j) Measures to avoid, remedy or mitigate adverse effects from the discharge of geothermal fluid.
- (k) The rate of take of geothermal resources.

Explanation/Intent of Rule

To provide for the installation of geothermal bores (and associated activities) for environmental monitoring purposes in Geothermal Management Group 3 and 4 areas.

GR R7 (Rule 75C) Discretionary – The Installation of Geothermal Bores, Excluding Monitoring Bores, in Geothermal Management Group 3 or 4, and Take and Use of Geothermal Water, Heat or Energy for Bore testing.

The:

- 1 Drilling, construction and installation of any new bore or replacement bore for the purposes of obtaining geothermal water, heat or energy, or
- 2 Drilling, construction or installation of any reinjection bore,

including the take and use of water, heat or energy for bore testing purposes, and the discharge of drilling fluids to the environment, where the activity is in a Geothermal Management Group 3 or 4 area, and the activity is not for monitoring purposes, is a discretionary activity.

Advisory Note

- 1 The installation of geothermal bores must also comply with Occupational Safety and Health regulations.
- 2 The installation and operation of monitoring bores in a Geothermal Management Group 3 or 4 area is addressed by GR R6.

Explanation/Intent of Rule

To restrict the installation of geothermal bores, excluding monitoring bores, in hot water areas (>70 degrees Celsius) due to the high risk that the activity may have adverse effects on the environment. This allows the Regional Council to assess the adverse environmental effects of the activity on a case by case basis.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	KT O4, KT O5, KT O6, IM O1, GR O6
<i>Policy</i>	KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, GR P11, GR P12
<i>Method</i>	KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12, GR M10

*Damming and Diversion of Geothermal Water***GR R8 (Rule 76) Discretionary – Damming or Diversion of Geothermal Water and Associated Structures**

The:

- 1 Damming or diversion of geothermal water (including interference with the natural outflow from a geothermal surface feature), and
- 2 Associated structures,

Is a discretionary activity.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of the damming or diversion of geothermal resources on a case by case basis, where the activity is likely to cause more than minor effects. There is insufficient information to predict the effects of this activity and use less restrictive approaches. This rule includes the diversion of geothermal water underground via drainage.

Assessment Criteria

When assessing resource consent applications under this rule, will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	KT O4, KT O5, KT O6, IM O1, IM M14, IM M17
<i>Policy</i>	KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, GR P1, GR P9
<i>Method</i>	KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12

*Discharge of Geothermal Water***GR R9 (Rule 77) Restricted Discretionary – Discharge of Geothermal Water by Reinjection**

The discharge of geothermal water onto or into land in circumstances where it may enter water (including land soakage and reinjection) is a restricted discretionary activity.

The Regional Council restricts its discretion to the following matters:

- (a) The location and depth of the discharge.
- (b) Measures to protect outstanding natural features, landscapes, significant indigenous vegetation and significant habitats of indigenous fauna, geothermal surface features.
- (c) Measures to protect geothermal taonga.
- (d) Measures to avoid, remedy or mitigate adverse effects from the discharge of geothermal fluid.
- (e) The rate and volume of geothermal discharge.
- (f) Measures to avoid, remedy or mitigate adverse effects on other lawfully established users of the field.
- (g) Measures to avoid, remedy or mitigate adverse effects on fresh water bodies.

Explanation/Intent of Rule

To provide for the reinjection of geothermal water, which is the preferred option in BW P8(a) of this regional plan.

GR R10 (Rule 77A)

Discretionary – Discharge of Geothermal Water

The discharge of geothermal water:

- 1 To water, or
- 2 Onto or into land (including land soakage),

Is a discretionary activity.

Advisory Note

- 1 The discharge of geothermal gases and steam to air is addressed in the Operative Bay of Plenty Regional Air Plan³⁷.
- 2 The discharge of gas into land is not controlled by this Regional Plan.

Explanation/Intent of Rule

To allow the Regional Council to assess the adverse environmental effects of the discharge of geothermal resources on a case by case basis, where the activity is likely to cause more than minor effects, and there is potential for significant adverse effects on the surrounding environment. There is insufficient information to predict the effects of this activity and use less restrictive approaches.

Assessment Criteria

When assessing resource consent applications under this rule, the Regional Council will have particular regard to, but not be limited to, the following provisions:

<i>Objective</i>	KT O4, KT O5, KT O6, IM O1, IM O2, RL O1, RL O2, IM O3, IM O4, TH O1, RL O3, OH O1, GR O5
<i>Policy</i>	KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P11, GR P1, GR P6
<i>Method</i>	KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12

³⁷ Environment Bay of Plenty, 2003. Operative Bay of Plenty Regional Air Plan.

Contents

NH Natural Hazards	1
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Management of Flood Hazards and Land Drainage

Issues	1
Objectives.....	2
Policies	2
Methods of Implementation	2
Rules.....	4

NH Natural Hazards

Management of Flood Hazards and Land Drainage

Issues

- NH I1 (Issue 37) **Human life, property and ecosystems in the region can be adversely affected by flood hazards, and land use and development may take place without due recognition of the hazard.**

Objective NH O1
Policy NH P1, NH P3
Method NH M2, NH M3, NH M4, NH M5, NH M9

- NH I2 (Issue 38) **Flood hazard mitigation works can be vulnerable to damage from land use and development activities, and this may reduce the protection provided by the mitigation works.**

Land use and development activities that may damage flood hazard mitigation works include earthworks and encroaching development. Activities in floodways, such as building construction or inappropriate planting of vegetation, can also reduce the effectiveness of the system by slowing water flows or causing sedimentation or erosion.

Objective NH O3
Policy NH P2
Method NH M1, NH M6, NH M7

- NH I3 (Issue 39) **The operation and maintenance of river schemes and land drainage schemes is necessary to maintain the integrity of the schemes, but can also have adverse effects on the environment, including heritage values and ecosystems.**

Maintenance activities may disturb the beds of rivers and streams, release sediment, introduce or remove plants from the beds of rivers and streams, install or maintain structures (such as rip-rap), and alter aquatic habitat characteristics and heritage value. However, maintenance activities are necessary to protect scheme assets and avoid or mitigate the effects of flooding on property.

Objective NH O2
Policy NH P4, NH P5
Method LM M18, LM M19, IM M15, NH M8
Rule DW R1, DW R12, DW R3, DW R5, DW R8, WQ R13, WQ R15, BW R35, NH R1, BW R36
Schedule 5, 6

Objectives

- NH O1 (Objective 49) The effects of flood hazards on the region's people, communities, and natural and physical resources are avoided or mitigated.
- NH O2 (Objective 50) The adverse environmental effects of flood hazard mitigation works, including river and land drainage schemes are avoided, remedied or mitigated.
- NH O3 (Objective 51) Flood hazard mitigation works that are agreed by the community as being necessary are not threatened by inappropriate land use activities.

Cross-Reference

Also refer to BW O1.

Policies

- NH P1 (Policy 87) To adopt and promote an integrated, catchment-based approach to flood hazard mitigation.
- NH P2 (Policy 88) To co-operate with the city council and district councils to ensure that flood hazard mitigation works and flood paths are protected from inappropriate land use activities.
- NH P3 (Policy 89) To promote the wide availability of flood hazard information, to enable organisations and individuals to make sound decisions based on the best available information.
- NH P4 (Policy 90) To require river schemes and land drainage schemes to be constructed, operated and maintained to:
- (a) Avoid adverse effects on significant heritage values. Where existing works are having adverse effects on such values, the effects are to be remedied or mitigated.
 - (b) Avoid, remedy or mitigate adverse effects on the environment while maintaining the integrity of the scheme.
 - (c) Remedy adverse effects on natural character, and terrestrial and aquatic habitats, where practicable.
- NH P5 (Policy 91) To recognise that some maintenance activities of river schemes and land drainage schemes have short-term adverse effects on the environment, but can have long-term benefits for flood and erosion mitigation, the protection of community assets, and environmental quality.

Cross-Reference

Also refer to BW P3.

Methods of Implementation

The Regional Council will:

Education, Promotion and Provision of Information

- NH M1 (Method 189) Raise community awareness of the restrictions on activities in relation to flood hazard mitigation works and flood paths.
- NH M2 (Method 190) Provide advice about flood hazards to the city council and district councils, other organisations and members of the public in response to requests, where such information is held by The Regional Council.

Working with Other Resource Management Agencies and the Community

- NH M3 (Method 191) Continue to develop floodplain management strategies for catchments containing river and drainage schemes administered by the Regional Council, with full involvement of the relevant city council or district council and the community.

Advocacy

- NH M4 (Method 192) Advocate that the city council and district councils use the provisions of the Building Act 2004 and suitable provisions in district plans, to avoid the location of major structures (including dwellings, buildings, septic tanks, and infrastructure) and flood-sensitive land uses:

- (a) Within the 2% AEP ('Annual Exceedance Probability') flood level of individual lakes, streams and rivers, as a minimum.
- (b) On other flood prone land.

Greater restrictions may be appropriate for some particularly flood-sensitive land uses. NH M5 may not apply where adequate flood mitigation measures are provided.

- NH M5 (Method 193) Advocate that the city council and district councils take the lead in developing integrated responses to flood hazards outside the major river and land drainage schemes, and support the city council and district councils in these processes.

- NH M6 (Method 194) Advocate that the city council and district councils protect flood hazard mitigation works and flood paths not administered by the Regional Council from activities that threaten their integrity and effectiveness, through district plan rules or bylaws as appropriate.

Regulatory Methods

- NH M7 (Method 195) Protect flood hazard mitigation works and flood paths administered by The Regional Council from activities that threaten their integrity and effectiveness, through regional plan rules or bylaws as appropriate.

- NH M8 (Method 196) Require the administrators of river schemes defined in Schedule 5, and land drainage schemes where the canals are identified in Schedule 3, to:

- (a) Implement the Environmental Code of Practice for Rivers and Drainage Maintenance Activities, 2001³⁸ that is consistent with the requirements of this regional plan, and includes the following matters:
 - (i) Principles of river and drainage scheme maintenance to avoid, remedy or mitigate adverse effects on the environment. Operational procedures that comply with the principles of river and drainage scheme maintenance are to be appended to the code of practice in recognition that the operational procedures are best management practices and will be continually improved in relation to (iv).
 - (ii) Consultation processes with tangata whenua, property owners, and other resource management agencies, including Department of Conservation and Fish and Game New Zealand, and operators of hydro-generation schemes that are within river scheme maintenance areas. Administrators are encouraged to consult with the wider community where contentious issues arise.

³⁸ Crabbe, B., and Ngapo, N., 2001. Environmental Code of Practice for Rivers and Drainage Maintenance Activities. Environment Bay of Plenty Operations Report 2001/01.

- (iii) Self-monitoring procedures.
- (iv) Continual improvement processes to avoid, remedy or mitigate the adverse environmental effects of maintenance practices.
- (v) Other information that the river scheme administrator considers appropriate.
- (b) Identify areas within the maintenance area of the scheme where aquatic habitat characteristics (including fish passage), terrestrial habitat in riparian areas, and natural character can, where practicable, be enhanced.
- (c) Manage the watercourses that are part of drainage schemes as identified in Schedule 3 in a manner that recognises, and where practicable enhances their ecological values.
- (d) Develop and implement planting strategies in river schemes that consider the use of alternatives to invasive species, including some willows. This will include:
 - (i) Rationalised use of willow species for erosion control, ensuring the correct selection of willow varieties, and limiting the use of willows to locations where other species are not appropriate.
 - (ii) Use of indigenous species, and the use of eco-sourced vegetation where and when it is available.
- (e) Ensure maintenance regimes are adopted and adhered to where plantings have been made for erosion control purposes.
- (f) Provide for public access points to the margins of rivers and streams in areas where plantings have been, or are being made for erosion control purposes. This only applies where there is existing authorised public access in such areas, or where requested by private property owners.

Cross-Reference

Also refer to LM M18 and LM M19, DW R1, DW R3, DW R5, WQ R13, WQ R15, BW R1, BW R34, BW R35, WQ R22, BW R36.

Monitoring and Investigation of the Environment

NH M21 (Method 197)

Undertake investigations into specific flood hazard issues, including but not limited to the effects of climate change on flooding occurrence, in co-operation with city and district councils, if appropriate.

Cross-Reference

Also refer to IM M15.

Rules***Maintenance of River Schemes and Land Drainage Schemes******Advisory Note***

- 1 Other maintenance activities are addressed by the following rules:
 - Use of agrichemicals for spraying weeds in or near surface water – DW R1.
 - Removal of plants (including weed cutting boats) – BW R35.
 - Earthworks – LM R1 to LM R4.
 - Vegetation disturbance on land – LM R7 to LM R10.
 - Maintenance of existing flood control structures – BW R1.
- 2 This regional plan does not regulate the maintenance of artificial watercourses, except where there is a discharge from the artificial watercourse into a stream, river, lake or wetland. DW R1 and DW R12 apply where aquatic herbicides or agrichemicals are used.

NH R1 (Rule 70) Permitted – Maintenance of River Schemes

Any disturbance of the bed of a stream, river or lake for the purpose of maintaining a River Scheme to its design standard where:

- 1 The activity is carried out by a river scheme administrator or its contractor exercising its functions under the Soil Conservation and Rivers Control Act 1941, and
- 2 The activity is within an existing River Scheme Maintenance Area as defined in Schedule 5, and
- 3 The activity is not part of new capital works,

Is a permitted activity subject to the following conditions:

- (a) Except in relation to (f), no works shall occur in the wet part of the bed of a stream or river identified in Schedule 1 during the spawning or migration periods of the species identified as present in the water body. Spawning and migration periods are identified in Schedule 2.
- (b) The activity shall comply with the principles of the Environment Bay of Plenty Environmental Code of Practice for River and Drainage Maintenance Activities (2001)³⁹.
- (c) The river scheme administrator shall maintain a register of all works carried out, detailing the type of works, location of the works and dates when the works were undertaken.
- (d) Any derelict structures including erosion protection works shall be removed.
- (e) Any works shall be maintained at all times in a sound condition for the purpose for which the works are designed.
- (f) Maintenance works shall only be carried out in the wet part of the bed of the river during the exclusion periods in relation to (a) where there is an emergency situation that is impairing the flood control function of the scheme. The river scheme administrator shall inform the Regional Council, and the Department of Conservation within 24 hours of the beginning of the works.
- (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (h) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (i) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (m) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (n) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (o) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

Explanation/Intent of Rule

The coverage of this rule includes channel works and other activities in the bed of a stream, river or lake within a River Scheme Works area as defined in Schedule 5. This rule recognises that ongoing works are necessary to maintain the flood mitigation function of river schemes. Any activities associated with new capital works require a resource consent.

³⁹ Crabbe, B, and Ngapo, N, 2001. Environmental Code of Practice for Rivers and Drainage Maintenance Activities. Environment Bay of Plenty Operations Report 2001/01.

NH R2 (Rule 70A)**Permitted – Maintenance of Identified Streams and Rivers (including modified watercourses)**

Any disturbance of the bed of a stream or river (including modified watercourses) that is listed below in Table NH 1 and the activity is necessary for the purposes of maintaining the land drainage function of the stream or river, is a permitted activity subject to the following conditions:

- (a) The activity shall be limited to the excavation of the bed of the stream or river to remove excess sediment, and removal of vegetation from the bed of the stream or river to maintain water flow.
- (b) The activity shall not widen the existing bed of the stream or river.
- (c) All practicable steps shall be taken to avoid deepening the stream or river and disturbing of the banks of the watercourse beyond the extent necessary to carry out the activity.
- (d) Where practicable, a sediment settling area that is slightly deeper than the bed of the stream or river shall be excavated at the downstream end of the work area prior to the activity occurring.
- (e) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the banks of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (f) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (g) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream or river, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (h) The activity shall not alter the existing course of the stream or river.
- (i) All machinery shall be kept out of the bed of the stream or river where practicable.
- (j) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (k) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (l) All dredged material, sediment or plant material, shall be removed from the stream or river and placed in a stable position, and all reasonable steps shall be taken to prevent the dredged material, sediment or plant material from entering the stream or river.
- (m) The activity shall not cause flooding or ponding on any land or property owned or occupied by another person whose land would not naturally carry water during storm or flood events.
- (n) The activity shall not prevent the passage of migrating fish.
- (o) Except in relation to (p):
 - (i) No works shall be carried out in tidal reaches of rivers and streams between 1 March and 31 May.
 - (ii) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
 - (iii) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (p) Maintenance works shall only be carried out in the wet part of the bed of the stream or river during the exclusion periods specified in (p) above, where either (i) or (ii):
 - (i) There is a silt deposition in the stream or river caused by a storm or runoff from upper catchment areas that is causing flooding.
 - (ii) It is necessary to maintain the original alignment of the stream to avoid or repair erosion.
- (q) Where works are carried out under (p), the landowner shall inform the Regional Council and the Department of Conservation 24 hours before the beginning of the works.

Table NH 1 Streams and Rivers for NH R2

	Stream or River	Main Stem or Tributary	Extent - GPS Co-ordinates
	Ohiwa Harbour Catchment		
1	Tunanui Stream	Main stem	From Coastal Marine Area upstream to 2865437, 6347491
2	Waiotane Stream	Main stem	From Coastal Marine Area upstream to 2865391, 6345722
3	Waiotane Stream	Unnamed south east tributary	From 2865391, 6345722 upstream to Department of Conservation reserve boundary
4	Waiotane Stream	Unnamed north east tributary	All upstream from 2865442, 6345814
5	Unnamed tributary of Ohiwa Harbour, east of Waiotane Stream	Main stem	All upstream from Coastal Marine Area
6	Wainui Stream	Main stem	From Coastal Marine Area to 2867249, 6344757; and 2867249, 6344757 to 2867054, 6344624
7	Wainui Stream	Unnamed east tributary	All upstream of 2867249, 6344747
8	Wainui Stream	Unnamed south tributary	From 2867249, 634474 to 2867311, 6344273
9	Wainui Stream	Unnamed western tributary	From 2867171, 6345558 to 2866515, 6345125
10	Wainui Stream	Tributary of Unnamed western tributary	From 2866783, 6345249 to 2866456, 6343913
11	Ouaki Creek	Main stem	From Coastal Marine Area to 2869502, 6345252
12	Unnamed tributary of Ohiwa Harbour, west of Te Awawairoa Stream	Main stem	From Coastal Marine Area to 2872235, 6343504
13	Te Awawairoa Stream	Main stem	From Coastal Marine Area to 2873062, 6342704
14	Kutarere Stream	Main stem	From Coastal Marine Area to SH 2 bridge
15	Unnamed tributary of Ohiwa Harbour, east of Kutarere Stream	Main stem	From Coastal Marine Area 2874518, 6342200
16	Te Kakaha Stream	Main stem	From Coastal Marine Area to 2874968, 6342025
17	Nukuhou River	Unnamed tributary – west	From 2872554, 6340377 to 2872266, 6340571
18	Nukuhou River	Unnamed tributary – east	From 2872554, 6340377 to 2872983, 6340242
19	Nukuhou River	Unnamed tributary – west	From 2872466, 6340112 to Kererutahi Forest Boundary
20	Nukuhou River	Unnamed tributary – east	From 2872590, 6339430 to 2872895, 6339477
21	Nukuhou River	Unnamed tributary – west	From 2872748, 6338290 to Kererutahi Forest Boundary
22	Nukuhou River	Unnamed tributary – west	From 2873066, 6337878 to Kererutahi Forest Boundary
23	Nukuhou River	Unnamed tributary – east	From 2873268, 6338231 to 2873595, 6338879, including eastern tributary starting 2873413, 6338329; and from

	Stream or River	Main Stem or Tributary	Extent - GPS Co-ordinates
			2873595, 6338879 to 2873724, 6338705; and all upstream of 2873777, 6339315
24	Nukuhou River	Matahaka River main stem	From 2873769, 6336800 to 2873860, 6336489; and from 2874035, 6335640 to 2874156, 6335412
25	Nukuhou River	Unnamed tributary – east	From 2873170, 6336406 to 2873132, 6335731
26	Nukuhou River	Unnamed tributary – east	From 2872563, 6334737 to 2872783, 6334365
27	Nukuhou River	Arawhatawhata Stream – unnamed tributary	All upstream from 2870290, 6331188
28	Nukuhou River	stream – unnamed tributary	All upstream from 2870118, 6330618

Advisory Note

- 1 This rule does not apply to the maintenance of artificial watercourses, which are not regulated by this regional plan. People undertaking maintenance activities in artificial watercourses should consider the implications of DW R3. It may be necessary to use appropriate measures to prevent the discharge of sediment to streams, rivers and lakes from the maintenance of artificial watercourses in order to comply with DW R3.
- 2 NH R2 does not apply to parts of the listed streams and rivers that are in the Coastal Marine Area.

Explanation/Intent of Rule

This rule covers the maintenance of listed streams and rivers (including modified watercourses) for channel capacity and stability purposes. This rule recognises that maintenance activities are necessary for land drainage purposes. Aquatic habitat values can be maintained where maintenance works are managed in accordance with the rule conditions.

NH R3 (Rule 70B)

Permitted – Maintenance of Land Drainage Canals

Any disturbance of the bed of a modified watercourse that is a land drainage canal listed below in Table NH 2, and the activity:

- 1 Is for the purpose of maintaining the land drainage canal to its design standard as stated in a management plan or asset management plan and are part of land drainage works, and
- 2 Is not part of new capital works,

Is a permitted activity subject to the following conditions:

- (a) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
 - (i) Instability of land or the bank of the surface water body.
 - (ii) Scour to the bed of the surface water body.
- (b) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (c) The activity shall not prevent the passage of migrating fish.
- (d) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (e) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (f) The activity shall not alter the natural course of the river.

- (g) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (h) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (i) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (j) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (k) The land drainage scheme administrator shall, within six (6) months of the date that this regional plan becomes operative, provide the Regional Council with a copy of a management plan or asset management plan for the scheme that contains the design standards to which the land drainage canals will be maintained.
- (l) The activity shall not cause or lead to erosion in the Coastal Marine Area.
- (m) The activity shall comply with the principles of the Environment Bay of Plenty Environmental code of Practice for River and Drainage Activities (2001).
- (n) The scheme administrator shall maintain a register of all works carried out, detailing the type of works, location of the works and dates when the works were undertaken.
- (o) All dredged material, sediment or weeds, shall be removed from the water body and placed in a stable position, and all reasonable steps shall be taken to prevent the dredged material, sediment or weed from entering the canal.
- (p) No works shall be carried out in the wet part of the bed of the canal during the exclusion periods specified below in Table NH 2, except in relation to (q).
- (q) Maintenance works shall only be carried out in the wet part of the bed of the canal during the exclusion periods specified in Table NH 2 where there is a major silt deposition in the canal caused by a storm or excessive runoff from upper catchment areas that is impairing the drainage function of the scheme. The land drainage scheme administrator shall inform the Regional Council and the Department of Conservation within 24 hours of the beginning of the works.

Table NH 2 Exclusion Periods for Canal Maintenance Works

	Canal	Exclusion Period
	Rangitaiki Plains	
1	Awaiti Canal	1 June to 31 December inclusive
2	Omeheu Canal	1 February to 31 May inclusive
3	Awakaponga Canal and Drain	1 September to 31 December inclusive
4	Waikamihī Stream	1 August to 31 December inclusive
5	Mangaone Stream	1 February to 14 June and 1 September to 31 December inclusive
6	Western Drain	1 September to 31 December inclusive
7	Ngakauaroa Drain/Stream	14 April to 14 June and 1 September to 31 December inclusive
8	Te Rahu Canal	1 September to 31 December inclusive
9	Otarere Drain/Stream	1 September to 31 December inclusive
10	Orini Canal	No exclusion period
11	Reid's Central Canal	1 August to 31 December inclusive
	Kaituna	
12	Kopuroa/Kopuaroa Canal	1 September to 31 December inclusive

	Canal	Exclusion Period
13	Ohineangaanga Canal	1 August to 31 December inclusive
14	Raparapahoe Canal	1 September to 30 November inclusive
15	Waiari Stream	1 September to 31 December inclusive
	Little Waihi	
16	Kaikokopu Canal	1 March to 31 May inclusive and 14 August to 14 October inclusive
17	Pongakawa Canal	
18	Pukehina Canal	
19	Wharere Canal	
	Waioeka/Otara	
20	Kukomoa Creek	1 September to 31 December inclusive
21	Te Karaka Creek	No exclusion period
	Waihi Beach	
22	2 Mile Creek	1 February to 31 May inclusive and 1 August to November inclusive
23	3 Mile Creek	
	Waioatahe Drainage District	
24	Waioatahe Main Drain	No exclusion period
	Tauranga City	
25	Kulim Ave - Bureta Road/ Golf course, Vale St-Bureta Road	No exclusion period.
26	Rosewood Flow Channel	
27	Sherwood Street	
28	Carmichael East	1 February to 15 August inclusive, and 1 September to 31 December inclusive
29	Castlewood Drive	No exclusion period.
30	Kingswood Road	
31	Humber Cres Amenity Reserve, Road Reserve, Watling Street	No exclusion period.
32	Bruce R/SH2, Mangatawa-SH2, Railway, Farmlands	
33	Pattersons	
34	Vale St	
35	Maxwells Road	
36	Solomon Street	
37	Russel Place	
38	Montgomery Street	
39	Birch Avenue	
40	Seventeenth Avenue – Golf Range to Clark Street; Historic Village/17 th Avenue, Rear Historic to Kopurereua	
41	Brook Street	
42	Maleme Street – East to Oropi Road and West	
43	Harrisfield Drive	
44	Owen Park	
45	Tara Road North and South	

	Canal	Exclusion Period
46	Harrisons Cut	
47	Beachwaters	
48	Southern Outlet/Te Maunga Farmland and Golf Course	
49	Christie	
50	Airport	
51	Maru Street/AgriBalance	
52	Te Maire Street	
53	Triton Avenue	
54	Pacific Cove periphery; Pacific Cove to Domain Road	
55	Taiaho Place	
56	Kaitemako Stream between the Welcome Bay Road bridge and Lochinvar Place	1 February to 31 May inclusive and 1 August to 31 December inclusive
57	Wairakei Stream	1 February to 31 May inclusive and 1 August to 31 December inclusive

Advisory Note

- 1 This rule does not apply to the maintenance of drains, which are not covered by this regional plan. People undertaking drain maintenance activities should consider the implications of DW R3 – discharges from farm drains. It may be necessary to use appropriate measures to prevent the discharge of sediment to streams, rivers and lakes from drain maintenance activities in order to comply with DW R3.

Explanation/Intent of Rule

In relation to condition (k), many if not all of the canals listed in Table NH 2 will already have management plans or asset management plans. Six months is a realistic period to prepare a management plan or asset management plan, for those areas where such a plan is not already in place. The coverage of this rule includes the cleaning and dredging canals, and the grading of slopes of canals. This rule recognises that canal maintenance activities are necessary to effectively operate existing land drainage schemes, and retain or improve water quality. Aquatic habitat values can be

AQ Air Quality

Air Quality is currently managed by the Operative Regional Air Plan.

Contents

Schedule 1	Aquatic Ecosystem Areas.....	1
Schedule 2	Fish spawning and migrations calendar	19
Schedule 3	Watercourses in Land Drainage Schemes with Ecological Values	21
Schedule 4	High Risk Facilities	23
Schedule 5	Maintenance Areas of River Schemes and Land Drainage Schemes.....	25
Schedule 6	Floodways in the Bay of Plenty	37
Schedule 7	Instream Minimum Flow Requirements	39
Schedule 8	Approved Quality Assurance Programmes and Environmental Management Plans	41
Schedule 9	Water Quality Classification Standards and Criteria	43
Schedule 10	Freshwater Bathing Sites.....	53
Schedule 11	Lawfully Existing Hydroelectric Power Schemes	55
Schedule 12	Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017	57
Schedule 13	Statutory Acknowledgements in the Bay of Plenty Region.....	59
Schedule 14	Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries	61

Schedule 1 – Aquatic Ecosystem Areas

A

Habitats and migratory pathways of indigenous fish species

Note: The GPS co-ordinates relate to points at which the fish species were identified.

The following streams, rivers and lakes are habitats or migratory pathways for indigenous fish species.

Catchment	River, Stream or Lake	Tributary	Species Present
Waihi Beach	Waihi Stream		Banded Kokopu, Giant Kokopu, Redfinned Bully, Unidentified Eel
	2 Mile Creek		Banded Kokopu, Redfinned Bully, Common Bully, Inanga, Common Smelt, Longfinned Eel, Shortfinned Eel
	3 Mile Creek		Banded Kokopu, Redfinned Bully, Common Bully, Inanga, Common Smelt, Longfinned Eel, Shortfinned Eel
Tauranga Harbour	Waiau River	Firewood Stream Tributary (T13 662 132)	Banded Kokopu, Longfinned Eel, Shortfinned Eel, Koura
		Athenree tributary (T13 675 110)	Banded Kokopu, Redfinned Bully, Koura
		Unnamed tributary Athenree (U13 717 144)	Giant Bully, Cockabully, Common Bully, Common Smelt, Inanga
	Tuapiro Creek	Waitengaue Stream	Banded Kokopu, Longfinned Eel, Redfinned Bully: Common Smelt: Common Bully
	Wharawhara Stream		Banded Kokopu, Common Smelt, Longfinned Eel, Shortfinned Eel, Redfinned Bully
	Uretara Stream		Redfinned Bully, Longfinned Eel, Inanga, Giant Kokopu, Common Smelt, Banded Kokopu, Koura, Common Bully, Shortfinned Eel, Torrentfish
		Boyd Stream	Banded Kokopu, Longfinned Eel, Shortfinned Eel, Common Bully, Common Smelt, Torrentfish
		Boyd Stream Tributary (T13 646 000)	Common Bully, Koura, Longfinned Eel, Unidentified Eel
		Te Mania Stream	Common Bully, Common Smelt, Inanga, Unidentified Eel
	Aongatete River	Aongatete River Tributary (T14 673 893)	Banded Kokopu, Longfinned Eel
	Wainui River	Wainui River Tributary (U14 711 919)	Shortjawed Kokopu
	Te Puna Stream		Koara, Longfinned Eel, Shortfinned Eel
	Wairoa River		Shortjawed Kokopu (below dam), Giant Bully, Inanga, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Common Smelt, Common Bully, Inanga, Banded Kokopu, Giant Kokopu
		Waireia Stream	Inanga, Redfinned Bully, Koura, Longfinned Eel, Shortfinned Eel
		Mangatarata River	Banded Kokopu, Longfinned Eel, Koura
		Ohourere Stream	Banded Kokopu, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Koura

Catchment	River, Stream or Lake	Tributary	Species Present
		Wairoa River Tributary (U14 816 848)	Common Smelt, Common Bully, Shortfinned Eel, Redfinned Bully, Inanga, Shortfinned Eel, Koura
		Opuia River	Shortjawed Kokopu, Longfinned Eel
		Mangakarengorengo River	Banded Kokopu, Longfinned Eel, Koura, Giant Kokopu
	Carmichael Reserve		Giant Kokopu, Shortfinned Eel, Banded Kokopu, Longfinned Eel, Common Bully, Redfinned Bully, <i>galaxiid</i> sp
	Kopurererua Stream		Inanga, Shortfinned Eel, Banded Kokopu, Giant Kokopu, Common Smelt, Longfinned Eel, Redfinned Bully, Common Bully
		Kopurererua Stream Tributary & Drain (U14 856 816)	Kokopu, Inanga
	Waimapu River		Common Bully, Longfinned Eel, Shortfinned Eel
	Kaitemako Stream		Cockabully, Common Bully, Common Smelt, Inanga
Wairakei Stream	Wairakei Stream		Shortfinned Eel, Longfinned Eel
Kaituna River	Kaituna River		Common Smelt, Redfinned Bully, Giant Bully, Inanga, Shortfinned Eel, Koura, Common Bully, Longfinned Eel
		Kaituna River Tributary (U15 041 555)	Banded Kokopu, Common Bully, Longfinned Eel, Koura
		Kopuroa Canal	Common Bully, Torrentfish, Unidentified Eel
		Ohineangaanga Stream	Inanga, Common Smelt, Longfinned Eel, Shortfinned Eel, Koura, Common Bully
		Raparapahoe Stream	Common Bully, Common Smelt, Banded Kokopu, Koaro, Longfinned eel
		Wairapukao Stream	Common Smelt, Lamprey, Longfinned Eel, Redfinned Bully
		Waiari Stream	Koura, Lamprey, Longfinned Eel, Redfinned Bully, Unidentified Galaxiid, Common Bully, Shortfinned Eel, Unidentified Eel, Common Smelt, Koura, Inanga
Waihi Estuary	Kaikokopu Canal		Inanga, Cockabully, Common Bully, Common Smelt
	Pokopoko Stream Tributary		Banded Kokopu
	Pongakawa Stream		Koura, Common Smelt, Giant Bully, Common Bully, Inanga, Shortfinned Eel, Longfinned Eel, Redfinned Bully, Banded Kokopu
		Pongakawa Stream Tributary (V15 208 669)	Banded Kokopu: Common Smelt, Longfinned Eel, Shortfinned Eel, Giant Bully, Common Bully, Redfinned Bully
Rotorua Lakes	Lake Rotoiti		Koaro, Common Bully, Common Smelt, Koura
		Ruato Bay Stream	Koaro, Common Bully
		Lake Rotoiti Tributary (U15 161 460)	Koaro, Common Bully, Common Smelt
	Lake Rotorua		Common Bully, Common Smelt, Koura
		Awahou Stream	Koaro, Koura, Unidentified Bully
	Lake Okataina		Common Bully, Common Smelt, Koaro

Catchment	River, Stream or Lake	Tributary	Species Present
		Haumingi Stream	Banded Kokopu, Koaro, Common Bully, Common Smelt
		Heruparaoa Stream	Banded Kokopu, Koaro, Common Bully, Common Smelt
		Kaikakahi Stream	Banded Kokopu, Koaro, Unidentified Galaxiid
		Lake Okataina Tributary (U16 068 365)	Banded Kokopu, Koaro, Common Bully, Common Smelt
		Rayners Bay Tributary (Pukahū Stream)	Banded Kokopu, Koura, Common Bully, Common Smelt
		Te Rereoterangi Stream	Common Bully, Common Smelt
	Lake Rorokawau		Koaro
	Lake Okaro		Common Bully, Common Smelt
	Lake Rerewhakaaitu		Common Smelt
	Lake Tarawera		Koaro, Common Bully, Common Smelt
		Lake Tarawera Tributary (U16 056 273)	Common Bully, Common Smelt, Koura
	Lake Okareka		Koaro, Common Bully, Common Smelt, Koura
		Lake Okareka Tributary (U16 035 325)	Koaro, Common Bully
Waitahanui	Waitahanui Stream		Redfinned Bully, Longfinned Eel, Common Smelt, Giant Bully, Shortfinned Eel
		Waitahanui Stream Estuary	Inanga, Longfinned Eel, Common Smelt, Giant Bully, Torrentfish
		Waitahanui Stream Tributary (V15 234 652)	Banded Kokopu, Inanga, Longfinned Eel, Common Smelt
		Pungerehu Stream	Banded Kokopu, Redfinned Bully, Longfinned Eel, Common Smelt
Matata	Hauone Stream		Common Bully, Common Smelt, Bluegilled Bully, Longfinned Eel, Unidentified Galaxiid
		Hauone Stream Estuary	Inanga, Giant Bully, Common Smelt, Shortfinned Eel
	Ruataniwha Stream		Banded Kokopu, Redfinned Bully, Unidentified Eel
	Unnamed Stream Matata (V15 365 630)		Bluegilled Bully, Redfinned Bully, Longfinned Eel
	Pikowai Stream		Banded Kokopu, Bluegilled Bully, Common Smelt, Shortfinned Eel, Longfinned Eel, Torrentfish, Redfinned Bully
	Herepuru Stream		Koaro, Longfinned Eel, Giant Kokopu, Shortfinned Eel, Redfinned Bully, Common Smelt, Torrentfish, Koura, Inanga
		Herepuru Stream tributary (V15 326 582)	Longfinned Eel, Redfinned Bully, Shortjawed Kokopu, Koaro, Unidentified Eel
	Mimiha Stream		Banded Kokopu, Giant Kokopu, Bluegilled Bully, Common Smelt, Inanga, Shortfinned Eel, Longfinned Eel, Koura, Redfinned Bully, Torrentfish
Tarawera	Tarawera River		Common Bully, Giant Bully, Shortfinned Eel, Torrentfish, Smelt, Koura, Longfinned Eel, Inanga, Banded Kokopu
	Tarawera Falls		Banded Kokopu, Longfinned Eel, Common

Catchment	River, Stream or Lake	Tributary	Species Present
			Bully
	Tarawera Outlet		Koaro, Common Bully, Common Smelt, Longfinned Eel
	Awatarariki Stream		Banded Kokopu, Inanga, Giant Bully, Shortfinned Eel, Longfinned Eel, Redfinned Bully
		Awatarariki Stream Estuary	Inanga, Common Smelt, Giant Bully, Shortfinned Eel, Banded Kokopu, Longfinned Eel, Redfinned Bully
		Umahika Stream	Giant Kokopu
		Watiepuru Stream	Longfinned Eel, Shortfinned Eel, Redfinned Bully
		Awaiti Canal	Giant Kokopu, Shortfinned Eel
		Awaiti Stream	Shortfinned Eel
		Omeheu Canal	Giant Bully, Shortfinned Eel, Redfinned Bully, Common Bully
		Awakaponga Stream/Canal	Common Bully, Lamprey, Shortfinned Eel, Redfinned Bully, Torrentfish
		Waikamihi Stream	Giant Kokopu, Banded Kokopu, Longfinned Eel, Shortfinned Eel, Inanga, Common Bully, Giant Bully, Redfinned Bully, Torrentfish
		Braemar Lagoon Outlet	Shortfinned Eel
		Braemar Spring	Shortfinned Eel
		Mangaone Stream	Banded Kokopu, Koaro, Inanga, Common Bully, Redfinned Bully, Shortfinned Eel, Longfinned Eel, Koura, Torrentfish, Lamprey
		Karaponga Stream	Redfinned Bully, Longfinned Eel, Koura, Torrentfish
		Waikanapiti Stream Tributary (V19 273 418)	Longfinned Eel
		Ruruanga Stream	Longfinned Eel, Koura
		Buddles Creek	Longfinned Eel
		Mangate Stream	Longfinned Eel, Shortfinned Eel
		Mangawhio Stream	Banded Kokopu, Shortfinned Eel
		Waiaute Stream	Longfinned Eel
		Waiaute Stream Tributary (V16 240 313)	Banded Kokopu, Longfinned Eel
		Okahiri Stream Tributary (V16 277 296)	Banded Kokopu
		Kaipara Stream	Longfinned Eel
		Unnamed Tributary (V16 259 340)	Banded Kokopu
Rangitaiki	Rangitaiki River		Banded Kokopu, Giant Kokopu, Common Bully, Longfinned Eel, Shortfinned Eel, Inanga, Common Smelt, Torrentfish
		Western Drain	Giant Kokopu, Common Bully, Longfinned Eel, Shortfinned Eel, Inanga
		Ngakauroa Stream	Banded Kokopu, Giant Kokopu, Redfinned Bully, Longfinned Eel
		Lake Matahina	Banded Kokopu, Common Bully, Longfinned Eel, Shortfinned Eel
		Mangapapa Stream	Longfinned Eel

Catchment	River, Stream or Lake	Tributary	Species Present
		Kopuriki Stream	Dwarf Galaxiid
		Horomanga River	Unidentified Galaxiid, Dwarf Galaxiid, Longfinned Eel
		Tukuhouhou Stream	Dwarf Galaxiid, Longfinned Eel
		Kotukutuku Stream	Dwarf Galaxiid, Longfinned Eel
		Wairohia Stream	Longfinned Eel
		Mangawhiri Stream	Longfinned Eel
Whakatane	Whakatane River		Koaro
		Paekoau Stream	Redfinned Bully, Longfinned Eel, Shortfinned Eel
		Paekoau Stream tributary (W16 583 314)	Redfinned Bully, Longfinned Eel, Shortfinned Eel
		Huape Stream	Redfinned Bully, Longfinned Eel
		Apiti Stream	Shortjawed Kokopu
		Mangaawai Stream	Shortjawed Kokopu
		Kawekawe Stream	Redfinned Bully, Longfinned Eel, Shortfinned Eel
		Ohineteraraku Stream	Banded Kokopu, Shortjawed Kokopu, Redfinned Bully, Longfinned Eel, Shortfinned Eel
		Wainuitewhara Stream Tributary (W15 611 520)	Banded Kokopu, Shortfinned Eel
		Te Rahu Canal	Giant Kokopu, Longfinned eel, Shortfinned eel
		Otarere Stream	Banded Kokopu, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Inanga, Common Smelt
		Waimeha Stream	Common Smelt, Inanga, Longfinned Eel
		Owhakatoro Stream	Bluegilled Bully, Redfinned Bully, Torrentfish
		Ngutuoha Stream	Koaro, Bluegilled Bully, Redfinned Bully, Longfinned Eel, Shortjawed Kokopu, Common Bully
		Wairere Stream	Common Smelt, Inanga, Unidentified Bully, Shortfinned Eel, Redfinned Bully, Common Bully
		Waipapa Stream	Koaro, Redfinned Bully, Longfinned Eel
		Tauranga River Tributary (W16 696 206)	Common Bully, Shortfinned Eel, Longfinned Eel
		Orouamananui Stream	Redfinned Bully, Longfinned Eel, Bluegilled Bully, Common Smelt, Common Smelt, Torrentfish, Unidentified Eel
		Pukareao Stream	Bluegilled Bully, Longfinned Eel, Common Smelt, Torrentfish
		Mangapae Stream	Longfinned Eel
	Tauranga River		Redfinned Bully, Longfinned Eel, Shortfinned Eel, Torrentfish
		Tauranga River Tributary (W16 695 128)	Redfinned Bully, Longfinned Eel
	Tauranga River	Whanganui Stream	Bluegilled Bully, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Torrentfish
		Waionepu Stream	Longfinned Eel
		Haruru Stream	Longfinned Eel, Banded Kokopu, Shortfinned Eel, Longfinned Eel

Catchment	River, Stream or Lake	Tributary	Species Present
		Raroa Stream	Bluegilled Bully, Redfinned Bully, Inanga, Torrentfish
		Tarepe Stream	Bluegilled Bully, Redfinned Bully, Common Bully, Common Smelt, Longfinned Eel, Shortfinned Eel, Inanga
		Parau Stream	Longfinned Eel, Redfinned Bully
		Parau Stream Tributary (W16 706 263)	Longfinned Eel, Shortjawed Kokopu, Longfinned Eel, Redfinned Bully
		Waihui Stream	Koaro
		Manaohou Stream	Koaro
		Te Paraunu Stream	Koaro
		Mangapouri Stream	Shortjawed Kokopu, Bluegilled Bully, Redfinned Bully, Longfinned Eel
Ohiwa Harbour	Wainui Stream (W15 672 457)		Banded Kokopu, Common Bully, Inanga, Common Smelt, Shortfinned Eel, Giant Bully, Black Flounder, Grey Mullet, Yellow-eyed Mullet
		Wainui Stream Tributary (W15 663 433 W15 661 445 W15 663 431 W15 656 403 W15 657 413 W15 654 407 W15 654 429 W15 654 417 W15 663 434)	Common Smelt, Shortfinned Eel, Longfinned Eel, Redfinned Bully, Inanga, Koura, Banded Kokopu, Koaro, Common Bully, Bluegill Bully, Torrentfish
	Nukuhou River (W15 707 437)		Inanga, Common Bully, Shortfinned Eel, Longfinned Eel, Red-finned Bully, Common Smelt
		Arawhatawhata Stream (W15 710 277 W15 713 274)	Banded Kokopu, Shortjawed Kokopu, Koaro, Longfinned eel, Redfinned Bully, Common Bully, Bluegill Bully
		Kotare Stream (W15 713 422)	Common Bully, Inanga, Common Smelt, Longfinned Eel, Shortfinned Eel
		Waionepu Stream (W15 731 278)	Longfinned Eel
	Maraetotara Stream		Giant Kokopu, Shortjawed Kokopu, Shortfinned Eel, Longfinned Eel, Redfinned Bully, Unidentified Eel, Torrentfish, Common Bully, Common Smelt
		Maraetotara Stream Tributary (W15 639 475)	Banded Kokopu, Redfinned Bully
		Unnamed stream discharging into coast. Directly west of Maraetotara Stream running alongside road to Whakatane.	Banded Kokopu
Waiotahe	Waiotahe River		Unidentified Bully, Torrentfish, Longfinned Eel, Common Bully, Common Bully, Inanga

Catchment	River, Stream or Lake	Tributary	Species Present
		Ataurere Stream	Redfinned Bully, Unidentified Eel, Longfinned Eel, Unidentified Galaxiid
		Ataurere Stream Tributary (W16 777 343)	Redfinned Bully, Unidentified Eel, Longfinned Eel, Shortfinned Eel, Unidentified Bully
		Waitahi River Tributary (W16 759 311)	Redfinned Bully, Longfinned Eel, Common Bully, Torrentfish
Waioeka	Waioeka River Mouth		Banded Kokopu, Inanga
	Waioeka River		Bluegilled Bully, Common Smelt, Inanga, Shortfinned Eel, Longfinned Eel, Torrentfish
		Cruen Creek	Koaro, Bluegilled Bully, Redfinned Bully, Common Bully, Longfinned Eel, Shortfinned Eel, Inanga, Common Smelt, Torrentfish
		Papepeti Stream	Koaro, Bluegilled Bully, Redfinned Bully, Common Bully, Longfinned Eel, Torrentfish
		Unnamed Tributary (W16 869 374)	Redfinned Bully, Longfinned Eel
		Marawaiwai Stream	Banded Kokopu, Redfinned Bully, Longfinned Eel, Common Bully, Redfinned Bully, Torrentfish: Unidentified Eel, Unidentified Galaxiid
		Marawaiwai Stream Tributary (W16 878 365)	Banded Kokopu, Redfinned Bully, Unidentified Bully, Longfinned Eel, Unidentified Eel
		Stoney Creek	Shortjawed Kokopu, Common Bully, Inanga, Longfinned Eel
		Kukomoa Creek	Common Bully, Inanga, Shortfinned Eel, Redfinned Bully, Longfinned Eel, Torrentfish, Common Smelt
		Omaukora Stream	Redfinned Bully, Torrentfish, Bluegilled Bully
		Owhiritoa Stream	Bluegilled Bully, Longfinned Eel, Common Bully, Torrentfish
Waiaua	Waiaua River		Common Bully, Common Smelt, Shortfinned Eel, Longfinned Eel, Cran's Bully, Redfinned Bully, Torrentfish, Cockabully
		Opape Stream	Inanga, Shortfinned Eel
Torere	Torere River		Bluegilled Bully, Common Bully, Cran's Bully, Inanga, Shortfinned Eel, Longfinned Eel, Torrentfish
Hawai	Hawai River		Common Smelt, Longfinned Eel, Unidentified Bully
Motu	Motu River		Bluegilled Bully, Common Bully, Inanga, Shortfinned Eel, Longfinned Eel, Torrentfish
		Motu River Tributary (X15 161 614)	Common Bully, Inanga, Longfinned Eel, Redfinned Bully
		Motu River Tributary (X15 160 613)	Banded Kokopu, Common Bully, Longfinned Eel, Shortfinned Eel, Inanga
		Mangakirikiri Stream	Koaro, Bluegilled Bully, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Torrentfish, Unidentified Galaxiid
		Omatapo Stream	Koaro
		Te Pohoe Stream	Banded Kokopu, Bluegilled Bully, Redfinned Bully, Common Bully, Longfinned Eel, Torrentfish
		Tutu Stream	Banded Kokopu, Longfinned Eel, Shortfinned Eel

Catchment	River, Stream or Lake	Tributary	Species Present
		Omawaka Stream	Redfinned Bully, Longfinned Eel, Shortfinned Eel, Cran's Bully
		Te Wai o Paohu Stream	Giant Kokopu, Redfinned Bully, Common Bully, Giant Bully, Longfinned Eel, Unidentified Galaxiid.
		Waiopoahu Stream	Koaro, Common Bully, Redfinned Bully, Inanga, Longfinned Eel, Torrentfish, Giant Kokopu, Giant Bully, Unidentified Galaxiid
		Houpoto Stream	Redfinned Bully, Common Bully, Inanga, Longfinned Eel
		Mangatutara Stream	Koaro, Bluegilled Bully, Longfinned Eel, Torrentfish, Unidentified Eel
		Mangatutara Stream Tributary (Y15 369 537)	Koaro, Bluegilled Bully, Longfinned Eel, Torrentfish, Shortjawed Kokopu
		Te Kahika Stream	Bluegilled Bully, Longfinned Eel, Torrentfish, Koaro
		Kohoka Stream	Koaro
		Kohoka Stream Tributary (Y15 357 429)	Koaro
		The Big Unknown Stream	Bluegilled Bully, Common Bully, Unidentified Eel, Torrentfish, Koaro
		Waihunga Stream	Koaro, Bluegilled Bully, Longfinned Eel, Torrentfish
		Takaputahi River	Koaro
		Takaputahi River Tributary (X16 134 354)	Koaro, Shortjawed Kokopu
		Rawea Stream	Koaro
		Whitikau Stream	Shortjawed Kokopu
		Whitikau Stream Tributary (X16 128 257)	Koaro
		Mangaotane Stream Tributary (Y16 300 360)	Koaro
Pokahinu	Waihapokopoko Stream		Koaro, Shortjawed Kokopu, Banded Kokopu, Redfinned Bully, Longfinned Eel, Shortfinned Eel
	Waiora Stream		Common Bully, Inanga, Shortfinned Eel, Longfinned Eel
Haparapara	Haparapara River		Shortjawed Kokopu, Giant Kokopu
		Haparapara River Tributary (X15 253 648)	Koaro, Shortjawed Kokopu, Bluegilled Bully, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Unidentified Galaxiid, Common Bully
		Waikakariki River	Bluegilled Bully, Torrentfish, Unidentified Eel, Unidentified Galaxiid
		Waikakariki River Tributary (X15 281 667)	Shortjawed Kokopu, Bluegilled Bully, Redfinned Bully, Shortfinned Eel
Te Kaha	Puremutahuri Stream		Banded Kokopu, Bluegilled Bully, Redfinned Bully, Inanga, Longfinned Eel, Torrentfish
Kereru	Kereru River		Bluegilled Bully, Cran's Bully, Longfinned Eel, Redfinned Bully
		Kereru River Tributary (Y14 334 727)	Banded Kokopu, Bluegilled Bully, Longfinned Eel, Redfinned Bully
		Ohinetutaekiora Stream	Banded Kokopu, Shortjawed Kokopu

Catchment	River, Stream or Lake	Tributary	Species Present
		Swamp	
		Ponuihine Stream	Banded Kokopu, Common Bully, Longfinned Eel, Shortfinned Eel
		Kaumaro Stream	Bluegilled Bully, Common Bully, Redfinned Bully, Longfinned Eel, Shortfinned Eel, Inanga, Lamprey
Whanarua	Whanarua Stream		Koaro, Short-Jawed Kokopu, Bluegilled Bully, Redfinned Bully, Longfinned Eel, Inanga, Torrentfish, Banded Kokopu, Common Bully, Common Smelt, Inanga, Shortfinned Eel, Giant Kokopu
Kopua	Kopua Stream		Banded Kokopu, Bluegilled Bully, Longfinned Eel, Shortfinned Eel, Inanga.
	Whakaataua Stream		Banded Kokopu, Redfinned Bully, Longfinned Eel, Bluegilled Bully, Common Bully, Inanga, Shortfinned Eel
Maraehako	Maraehako Stream		Inanga, Shortfinned Eel
Raukokore	Raukokore River		Common Bully, Inanga, Shortfinned Eel, Redfinned Bully, Torrentfish
Waihau	Waitewake Stream		Giant Kokopu, Bluegilled Bully, Common Bully, Inanga, Longfinned Eel, Torrentfish
Whangaparaoa	Whangaparaoa River		Cran's Bully, Inanga, Torrentfish, Unidentified Eel
		Te Rereauira Stream	Cran's Bully, Inanga, Shortfinned Eel, Longfinned Eel

B Habitats of threatened indigenous flora and fauna

Catchment	Central Grid Reference	Species Present
Waihi Beach Catchment		
Mangakiri Stream	T13 580 100	Hochstetter's Frog
Tauranga Harbour Catchment		
Waitengaue Stream	T13 620 067	Blue Duck
Tahawai Stream Tributary	T13 646 044	Hochstetter's Frog
Te Rereatukahia Tributary	T14 623 954	Hochstetter's Frog
Aongatete River Tributary	T14 665 880	Hochstetter's Frog
Wainui River Tributary	U14 700 820	Little Shag
Omanawa River	U15 822 627	Little Shag
Mangapapa River	U15 791 556	Blue Duck
Opuaki River	U15 735 596	Blue Duck
Ngamuwahine River	T14 600 600	Blue Duck
Ngatuhua Stream	U15 754 649	Blue Duck
Kaituna River Catchment		
Kaituna River Mouth	V14 108 776	Spoonbill, Pied Shag, Black Shag (breeding)
Kaituna River	U15 040 559	Blue Duck
Atuaroa Stream	U14 996 709	Little Shag

Catchment	Central Grid Reference	Species Present
Raparapahoe Stream Tributary	U14 952 693 and 955 693	Hochstetter's Frog
Mangatoi Stream	U15 965 626	Blue Duck
Te Rerenga Stream	U15 910 594	Blue Duck
Whataroa Gorge	U15 971 617	Blue Duck
Tarehapa and Taumatapaua Stream (Upper Whataroa)	U15 928 581	Blue Duck
Mangorewa River	U15 883 535	Blue Duck
	U15 884 543	Blue Duck
Upper Mangorewa Gorge	U15 928 557	Blue Duck
Kiwi Stream	U15 974 566	Blue Duck
Ohaupara River	U15 887 551	Blue Duck
Pipikarahi Stream	U15 939 555	Blue Duck
Rotorua Lakes Catchments		
Parengarenga Springs	U15 050 453	<i>Juncus holoschoenus</i>
	U15 050 453	<i>Juncus holoschoenus</i>
Lake Rotorua Mokoia Island	U15 978 415	<i>Rorippa divaricata</i>
	U15 978 415	<i>Rorippa divaricata</i>
	U15 978 415	<i>Rorippa divaricata</i>
	U15 978 415	<i>Rorippa divaricata</i>
Ohau Channel	U15 025 455	Little Shag breeding site. Good water bird numbers e.g. NZ Scaup, Dabchick
Utuhina Stream	U16 848 316	Blue Duck
Paradise Valley Springs	U16 863 364	Blue Duck
Lake Rotorua	U16 948 367	Outstanding area for water birds
Puarenga Stream	U16 946 317	Hemo Gorge Little Shag colony
Lake Okataina	U16 090 355	NZ Scaup, Dabchick
Lake Rotokawau	U15 063 423	NZ Dabchick
Lake Rotongata (Mirror Lake)	V15 102 420	NZ Scaup, Spotless Crake, NZ Dabchick, Australasian Bittern
Lake Okaro	U16 070 172	Range of waterbirds including NZ Dabchick, Little Shag, Little Black Shag
Lake Rerewhakaaitu	U16 165 173	Range of waterbirds including NZ Dabchick, NZ Scaup, Australasian Bittern, Little-Shag
Lake Tarawera	U16 057 273	NZ Dabchick, NZ Scaup, and a wide range of other water birds
Te Wairoa Stream	U16 040 266	NZ Scaup, Dabchick
Lake Okareka	U16 045 315	NZ Scaup, NZ Dabchick and range of other water birds
Lake Tikitapu	U16 014 289	<i>Rorippa divaricata</i>
	U16 020 290	NZ Scaup, NZ Dabchick and other water birds
Lake Rotokakahi	U16 010 265	NZ Scaup, NZ Dabchick and other water birds
Tarawera River Catchment		
Tarawera River	V16 185 316	Brown Teal (very rare), N.Z Scaup
Braemar Lagoon Outlet	V15 384 524	NZ Scaup

Catchment	Central Grid Reference	Species Present
Tarawera Outlet	V16 170 297	NZ Scaup, Black Shag, Little-Shag
Rangitaiki River Catchment		
Rangitaiki River Mouth	W15 514 585	Range of waterbirds including shags
Rangitaiki River	V17 293 884	Blue Duck
Lake Aniwhenua	V16 400 105	NZ Scaup, NZ Dabchick and range of other water birds
Lake Matahina	V16 449 361	NZ Dabchick, Scaup, Black Shag
Mangamako Stream	V16 444 204	Blue Duck
Pahekeheke Stream	V16 405 175	NZ Dabchick, Banded Dotterel, Caspian Tern, Australasian Bittern, Spotless Crake, NI Fernbird, NZ Scaup
Horomanga River	V14 379 082	Blue Duck
Whirinaki River	V17 370 959	Blue Duck
	V18 317 720	Blue Duck
	V18 294 563	Blue Duck
	V18 295 559	Blue Duck
	V18 295 563	Blue Duck
	V18 295 689	Blue Duck
	V18 296 689	Blue Duck
	V18 297 680	Blue Duck
	V18 298 692	Blue Duck
	V18 298 693	Blue Duck
	V18 298 698	Blue Duck
	V18 300 559	Blue Duck
	V18 302 643	Blue Duck
	V18 288 575	Blue Duck
	V18 285 680	Blue Duck
	V18 287 593	Blue Duck
Kakanui Stream	V18 284 675	Blue Duck
Taumutu Stream	V18 287 620	Blue Duck
	V18 289 620	Blue Duck
Kakaiti Stream	V18 293 618	Blue Duck
Kakanui Stream	V18 314 629	Blue Duck
Mangamate Stream	V18 315685	Blue Duck
Unnamed Stream	V17 380 890	Blue Duck
Minginui Creek	V18 365 732	Blue Duck
Pekepeke Stream	V17 270 967	NI Fernbird
Otamatea River	V18 206 729	Blue Duck

Catchment	Central Grid Reference	Species Present
Whakatane River Catchment		
Whakatane River Estuary	W15 542 605	Caspian Tern, Royal Spoonbill, Banded Dotterel, Australasian Bittern, Banded Rail, NI Fernbird and a range of other waterbirds
Whakatane River main stem		Banded Dotterel breeding, other waterbirds
Otapukawa Stream	W17 715 050	Black Shag
Ohiwa Harbour Catchment		
Te Kakaha Stream	W15 750 414	Spotless Crake
Awaraputuna Stream Inlet	W15 667 495	Australasian Bittern, NI Fernbird
Tunanui Stream Inlet	W15 662 485	Australasian Bittern, NI Fernbird
Waiotane Stream	W16 665 475	Banded Rail, NI Fernbird
Wainui Stream Lower reaches	W15 669 465	NI Fernbird, Spotless Crake, Banded Rail
Kutarere Stream	W15 743 426	Banded Rail
Whitiwhiti Stream	W15 677 479	NI Fernbird
Ouaki Creek	W15 698 456	Australasian Bittern, Banded Rail, NI Fernbird
Te Awawairoa Stream	W15 730 428	Banded Rail, NI Fernbird
Kutarere Stream	W15 738 425	Banded Rail
Unnamed Stream West of Papanui Road	W15 745 424	Banded Rail
Unnamed Stream at Reeves Road	W15 747 456	Banded Rail
Nukuhou River	W15 707 440	NI Fernbird, Spotless Crake, Banded Rail, shags (various)
Waiotaha River Catchment		
Waiotaha River Mouth	W15 780 475	Caspian Tern, Australasian Bittern, Banded Rail, 4 species of shag, Pied Shag roosting/breeding
Waioeka/Otara River Catchment		
Waioeka River	W16 878 117	Blue Duck
Wairata Stream	W16 884 123	Blue Duck
Wairata Waioeka Gorge	W16 881 172	Hochstetter's Frog
Waioeka River Tributary	W16 845 288	Hochstetter's Frog
Matahanea Creek	W16 852 313	Hochstetter's Frog
Tributary Owiritoa Stream	W16 857 285	Hochstetter's Frog
Oponae Waiata Stream	W16 810 197	Hochstetter's Frog
Opato Stream	W16 800 100	Blue Duck
Manganuku Stream	X16 935 142	Blue Duck
Te Pato Stream (Kotepato)	W17 882 097	Hochstetter's Frog
Kahunui Stream	W17 843 022	Blue Duck

Catchment	Central Grid Reference	Species Present
Tataweka Stream	W17 773 964	Blue Duck
Makakoere Stream	W17 790 915	Blue Duck
Te Waiti Stream	X16 948 318	Blue Duck
Tokenui Stream	X16 958 267	Hochstetter's Frog
Orokutia Stream	X16 985 328	Blue Duck
Pakahi Stream	X16 001 293	Blue Duck
Motu River Catchment		
Mangakirikiri Stream	X15 208 438	Hochstetter's Frog
Motu River Mouth	X15 140 610	Banded Dotterel
Motu River	X16 150 235	Hochstetter's Frog
Motu River Tributary	X15 264 523	Hochstetter's Frog
Houpoto Stream	W15 137 578	Spotless Crake
Manuriki Stream	X15 208 527	Blue Duck
Tributary Manuriki Stream	X15 199 566	Hochstetter's Frog
Huaero Stream	X15 251 566	Hochstetter's Frog
Mangatutara Stream	Y15 461 539	Hochstetter's Frog
Kahoka Stream Tributary	Y15 357 429	Blue Duck
Te Kahika Stream	X15 280 477	Blue Duck
Takaputahi River	X16 103 322	Blue Duck
Rawea Stream	X15 126 388	Blue Duck
Nga Upokotangata Stream	X16 071 340	Blue Duck
Waitukuaruhe Stream	X16 084 312	Blue Duck
Mangamate Stream - All Tributaries	X16 100 300	Hochstetter's Frog
Mangamate Stream	X16 165 446	Blue Duck
Whitikau Stream	X16 123 297	Blue Duck
Eastern Rivers Catchments		
Opape Stream	X15 998 485	Blue Duck
Waiaua River	X15 976 450	Spotless Crake
Takataka Stream Tributary	X15 049 440	Hochstetter's Frog
Oteakona Stream	X15 990 410	Hochstetter's Frog
Waiiti Stream	X15 087 499	Hochstetter's Frog
Te Whiorau Stream		Hochstetter's Frog
Haparapara River		Banded Dotterel
Te Waiohuinga Stream Tributary	X15 204 650	Hochstetter's Frog
Waikakariki River	Y15 352 658	Blue Duck
Waikakariki River Tributary	X15 252 671	Hochstetter's Frog
Waiore Stream	X15 233 698	Hochstetter's Frog
Orini Stream	X15 214 685	Hochstetter's Frog
Kereru River		Hochstetter's Frog in Whanarua-Kereru corridor
Whanarua Stream	Y14 323 796	Hochstetter's Frog
Raukokore River Mouth, Lagoon and Lower River	Y14 400 816	Caspian Tern, Banded Dotterel breeding site
Raukokore River	Y14 451 755	Hochstetter's Frog

Catchment	Central Grid Reference	Species Present
	Y15 437 679	Hochstetter's Frog
	Y15 460 677	Hochstetter's Frog
	Y15 416 617	Blue Duck
	Y15 422 598	Blue Duck
	Y15 426 629	Blue Duck
	Y15 440 639	Blue Duck
	Y15 440 642	Blue Duck
	Y15 445 647	Blue Duck
	Y15 450 686	Blue Duck
	Y15 454 650	Blue Duck
	Y15 455 671	Blue Duck
	Y15 461 673	Blue Duck
Raukokore River Tributary	Y14 406 785	Hochstetter's Frog
Raukokore River Tributary	Y14 387 806	Hochstetter's Frog
Mangaikakorea Stream	Y14 401 791	Hochstetter's Frog
Mangahatoto Stream	Y14 396 799	Hochstetter's Frog
Waihueroto Stream	Y14 391 778	Hochstetter's Frog
Okapua Stream	Y15 459 657	Blue Duck
Unnamed Stream	Y15 462 639	Blue Duck
Waitawake Stream	Y14 502 894	NZ Dotterel, Australasian Bittern, Spotless Crake, Fernbird
Whangaparaoa River Mouth	Y14 515 915	NZ Dotterel, Australasian Bittern, Spotless Crake, Fernbird
Te Rereauira Stream	Y14 565 909, Y14 580 904	NI Fernbird, Spotless Crake, Australasian Bittern

C Whitebait Spawning Sites

The tidal reaches of any river or stream flowing into a harbour or estuary, or to the open coast are also potential whitebait spawning areas.

Name of River or Stream	Central Grid Reference
Kaikokopu Canal	V14 164 747
Kaituna River Mouth	V14 101 779
Kaituna River	U14 062 789
Nukuhou River	W15 707 440
Otara River	W15 866 474
Otara River	W15 868 473
Pongakawa Canal	V14 171 745
Pukehina Canal	V14 171 746
Rangitaiki River	V15 501 573
Tunanui Stream Inlet	W15 662 485
Uretara Stream	T13 679 016
Waiau River	U13 711 136
Waiaua River	X15 955 478
Waiaua River	X15 596 477
Waioeka/Otara River	W15 854 463

Name of River or Stream	Central Grid Reference
Waioeka/Otara River	W15 866 474
Waioeka River	W15 839 475
Waiotahe River	W15 783 458
Waiotane Stream	W16 665 475
Wairoa River	U14 837 835
Wairoa River	U14 837 834
Whakatane River	W15 578 530
Whakatane River	W15 595 534

D Important Habitats of Trout

Catchment	River, Stream or Lake	Comments
Eastern Region Motu	Raukokore River	Trout habitat values in upper reaches of river.
	Motu River	Regionally significant trout habitat and fishery value.
	Takaputahi River	Regionally significant trout habitat values (spawning) and locally significant fishery values.
Waioeka/Otara	Waioeka River	Regionally significant trout habitat and fishery values.
	Otara River	Locally significant trout habitat and brown trout fishery values.
	Opato Stream	Regionally significant trout habitat values (resident adult and spawning habitats), locally significant fishery values.
	Wairata Stream	Locally significant trout habitat values (spawning).
	Koranga Stream	Regionally important adult and spawning habitats (upper tributary).
	Kahunui Stream	Locally significant trout habitat and fishery values.
Waiotahe	Waiotahe Stream	Locally significant trout habitat and fishery values.
Whakatane	Whakatane River	Regionally significant trout habitat and fishery values.
	Tauranga River	Regionally significant trout habitat and fishery values.
	Waikare River	Locally significant trout habitat and fishery values.
	Kahaki Stream	Locally significant trout habitat values.
	Ohora Stream	Locally significant trout habitat values.
	Owaka Stream	Locally significant trout habitat values.
Rangitaiki	Rangitaiki River	Regionally significant trout habitats and fishery throughout its length.
	Rangitaiki River	Locally significant trout habitat and fishery values.
	Waikokopu Stream	This tributary provides significant spawning and juvenile rearing habitats.
	Waihua Stream	Locally significant trout habitat and fishery values.
	Mangamako Stream	Locally significant trout habitat.
	Lake Aniwhenua	Regionally significant trout habitat and fishery values.
	Ngatamawahine Stream	Locally significant trout habitat values.
	Horomanga River	Regionally significant trout habitat and fishery values.
	Haumea Stream	Locally significant trout habitat values.
	Whirinaki River	Regionally significant trout habitat and fishery values.
	Wheao River	Regionally significant trout habitat and fishery values.
	Lake Flaxy	Regionally significant trout habitat and fishery values.
	Otamatea River	Locally significant trout habitat and fishery values.
Tarawera	Tarawera River (above falls)	Nationally significant habitat values and internationally significant fishery values.

Catchment	River, Stream or Lake	Comments
	Falls to Kawerau	Regionally significant habitat and fishery values.
	Mangaone Stream	Locally significant habitat and fishery values.
	Ruruanga Stream	Locally significant habitat and fishery values.
	Buddles Creek	Locally significant trout habitat.
	Kaipara Stream	Locally significant trout habitat.
	Waiautu Stream	Locally significant trout habitat.
Pongakawa	Pongakawa Stream	Locally significant habitat and fishery values.
Kaituna	Kaituna River	Regionally significant habitat and fishery values.
	Mangorewa River	Locally significant trout habitat.
	Waiari Stream	Locally significant trout habitat and fishery values.
Tauranga Harbour	Waimapu Stream	Locally significant trout habitat and fishery values.
	Mangakarengorengo (upstream of Kaimai 5 Power Station)	Regionally significant habitat and fishery values.
	Mangaonui Stream	Regionally significant habitat and fishery values.
	Ngatuhua (between confluence with Opuiaki River and NZMS 260 U15 758 645 approx)	Regionally significant habitat and fishery values.
	Ngatuhua (upstream of Ngatuhua Canal)	Regionally significant habitat and fishery values.
	Mangapapa (between confluence with Opuiaki River and Lower Mangapapa Power House)	Regionally significant habitat and fishery values.
	Mangapapa (upstream of weir for Kaimai Hydroelectric Power Scheme Tunnel No 2)	Regionally significant habitat and fishery values.
	Mangaroa Stream	Regionally significant habitat and fishery values.
	Mangakaiwhiria Stream	Regionally significant habitat and fishery values.
	Ohourere Stream	Locally significant trout habitat.
	Ngamuwahine River	Regionally significant habitat and fishery values.
	Opuiaki River	Locally significant trout habitat.
	Lake Mangapapa (Matariki)	Trout exists but no significant trout habitat.
	Lake McLaren	Locally significant trout habitat and fishery values.
	Tuapiro Stream	Locally significant trout habitat
Rotorua Lakes	Lake Rotorua	Nationally significant habitat values and internationally significant fishery values.
	Puarenga Stream	Locally significant trout habitat – may have brook char population.
	Utuhina Stream	Regionally significant habitat and fishery values.
	Ngongotaha Stream	Nationally significant habitat and fishery values.
	Waimata Stream	Locally significant habitat values – supports trout hatchery.
	Waiowhero Stream	Locally significant trout habitat.
	Waikuta Stream	Locally significant trout habitat.
	Waiteti Stream	Regionally significant habitat and fishery values.
	Awahou Stream	Nationally significant habitat and fishery values. Cold water source.

Catchment	River, Stream or Lake	Comments
	Hamurana Stream	Nationally significant habitat and fishery values. Cold water source.
	Waiohewa Stream	Locally significant trout habitat.
	Waingaehe Stream	Locally significant trout habitat.
	Ohau Channel	Regionally significant habitat values and nationally significant fishery values. The Ohau Channel also acts as a significant migratory corridor for trout passing between lakes Rotoiti and Rotorua.
	Lake Rotoiti	Nationally significant habitat values and internationally significant fishery values.
	Te Taroa (Coles) Stream	Regionally significant habitat values.
	Hauparu Stream	Regionally significant habitat values and locally significant fishery values.
	Ruato Stream	Regionally significant habitat values and fishery values.
	Waiti Stream	Locally significant habitat and fishery values.
	Tapuaeharuru Stream (Transformer)	Locally significant habitat and regionally significant fishery values.
	Lake Rotoehu	Regionally significant habitat and fishery values. Most of the wild spawning is thought to occur in Maero Stream on the southern side of the lake.
	Lake Rotoma	Regionally significant habitat and fishery values. Lake contains tiger trout (brook char-brown trout hybrid).
	Lake Okataina	Nationally significant habitat values and internationally significant fishery values.
	Western tributaries (Log pool, Rayner 1 & 2, Unnamed stream in south western corner V16 604 348)	Regionally significant habitat and fishery values.
	Lake Tarawera	Nationally significant habitat values and internationally significant fishery values.
	Tarawera Outlet	Nationally significant habitat values and internationally significant fishery values.
	Wairua Stream	Regionally significant habitat and fishery values.
	Te Wairoa Stream	Nationally significant habitat values and regionally significant fishery values.
	Waitangi Stream	Regionally significant habitat and fishery values.
	Reg's Creek (Western Spring Streams)	Locally significant habitat and fishery values.
	Lake Rotomahana	Regionally significant habitat and fishery values, Most known spawning occurs in the two streams flowing from the south into the lake, the Waingongonga Stream and the other unnamed stream on its western side.
	Lake Rerewhakaaitu	Regionally significant habitat and fishery values.
	Lake Okaro	Locally significant habitat and fishery values.
	Lake Rotokakahi	Regionally significant habitat and fishery values to local iwi.
	Lake Tikitapu	Regionally significant habitat and fishery values.
	Lake Okareka	Regionally significant habitat and fishery values. There is thought to be some wild spawning in the outlet (Waitangi Stream) and also on an unnamed tributary on the south eastern shore.

Schedule 2 – Fish spawning and migration calendar

The fish calendar is summarised in Table S2 1 and Table S2 2. If the recruitment of all species in the Bay of Plenty is considered, there is no time when an activity will be allowed. It is in a developer's interest to identify what species are present and what recruitment activities are likely to be affected by a given activity. Whitebait runs, inanga spawning, elver migrations, downstream adult eel migrations and trout spawning represent the main recruitment events for freshwater fish in the Bay of Plenty. Development is unlikely to affect more than one or two of these activities and so restrictions on development will usually be short. For example, only activities that affect the tidal reaches of rivers have the potential to damage inanga spawning sites. Some streams are inaccessible to whitebait and therefore allowing for migration is not always a consideration. In some cases it may be worthwhile monitoring fish directly to determine when recruitment starts. For example, whitebait could be monitored to track when migration reaches the affected site to allow an extra few days/weeks of instream works. The more effort put into identifying the affected ecosystem the narrower the restriction period is likely to be. The following steps are recommended when using the calendars:

- 1 What fish are present in or pass through the affected reach?

Identifying the species present might involve fishing, reviewing existing records (e.g. NZ Freshwater Fish Database), extrapolating from fish records of nearby streams, or taking an educated guess at what species are likely to occur there. The latter options will need to be more conservative (i.e. produce longer species lists).

- 2 What recruitment activities do these species carry out in the affected reach?

Do the species identified in step 1 spawn in or migrate through the affected reach? For example, inanga spawning takes place in the tidal reaches of rivers and streams, adult trout migrate up river to spawning streams.

- 3 Use the calendar to identify what times of year this recruitment takes place.

For example, if bridge supports are to be constructed in a small coastal stream that supports inanga only, construction should avoid the August to October period when whitebait are likely to be migrating upstream.

Further Considerations

Decisions on a final time frame should take into account the importance and vulnerability of the fishery. For example, giant kokopu and shortjawed kokopu are threatened species and so the exclusion period should extend through the peak and range of activity. The same might apply for significant inanga spawning sites.

The times of year given in the calendar for diadromous migrations (whitebait and elvers) apply to coastal streams. The young fish can take a while to reach inland sites. For example, elvers that entered the Rangitaiki estuary in September don't reach the Matahina Dam until January. Migrations speeds were estimated by some authors and are presented in the literature review. These could be used to estimate time of arrival for inland sites.

There is little or no information available for the spawning and migration of many species. Timing of these events varies from year to year and between regions, so results that are based on single river season studies have predictably narrow periods of activity. Further research is needed, but in the meantime caution is needed when interpreting results for less studied species.

Table S2 1 Whitebait and Juvenile Migration Summary

Peak activity is shown in black, range of activity in grey

	Winter			Spring			Summer			Autumn		
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Inanga ¹												
Banded Kokopu ¹												
Koaro - sea run ¹												
Koaro – lake run												
Giant Kokopu												
Smelt - sea run												
Smelt – L. Rotorua ²												
Redfinned Bully												
Common Bully												
Eel ³												

- 1 Principal whitebait species.
- 2 Principal whitebait species in Rotorua Lakes.
- 3 Two species of eel moving at overlapping times of year.
- 4 Glass eels moving into harbour mouths and estuaries.

Table S2 2 Spawning Summary

Peak activity is shown in black, range of activity in grey

	Spring			Summer			Autumn			Winter		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Inanga												
Banded Kokopu ¹												
Koaro ²												
Giant Kokopu ¹												
Shortjawed Kokopu ¹												
Smelt - ocean run												
Smelt – L. Rotorua												
Eel ³												
Trout spawning ⁴												
Trout egg develop. ⁵												

- 1 Spawning migrations away from adult habitat poorly known or infrequently documented.
- 2 Spawning migrations not likely.
- 3 Two species of eel moving at overlapping times of year.
- 4 Brown's and Rainbow's migrating upstream and spawning.
- 5 Brown's and Rainbow's egg and elver development in gravel's.

Schedule 3 – Watercourses in Land Drainage Schemes with Ecological Values

Land Drainage Canal	Column 1	Column 2	Column 3
	Fish Species Resident in the Land Drainage Canal or its Catchment that Spawn in Tidal Areas	Fish Species Resident in Land Drainage Canal	Fish Species Resident in the Upper Catchment of the Land Drainage Canal
Rangitaiki Plains			
Awaiti Canal	N/A	Giant Kokopu, Shortfinned Eel	N/A
Omeheu Canal	N/A	Giant Bully, Shortfinned Eel, Redfinned Bully, Common Bully	N/A
Awakaponga Canal and Stream	N/A	Shortfinned Eel	Common Bully, Lamprey, Shortfinned Eel, Redfinned Bully, Torrentfish
Waikamihī Stream	Not tidal	Giant Kokopu, Banded Kokopu, Shortfinned Eel, Longfinned Eel, Inanga, Common Bully, Giant Bully, Redfinned Bully, Torrentfish	Common Bully, Inanga, Giant Bully, Shortfinned-Eel, Redfinned Bully, Torrentfish
Mangaone Stream	Not tidal	Banded Kokopu, Koaro, Inanga, Common Bully, Redfinned Bully, Shortfinned Eel, Longfinned Eel, Koura, Torrentfish, Lamprey	Shortfinned Eel, Redfinned Bully, Longfinned Eel, Koura, Torrentfish
Western Drain	Has flood gate – no tidal spawning	Common Bully, Shortfinned Eel, Longfinned Eel, Inanga	N/A
Ngakaurua Drain/Stream	N/A	Giant Kokopu, Banded Kokopu, Redfinned Bully, Longfinned Eel	No information
Te Rahu Canal	N/A	Giant Kokopu, Shortfinned Eel, Longfinned Eel	No information
Otarere Stream/Drain	Not tidal	Banded Kokopu	Redfinned Bully, Longfinned Eel, Shortfinned Eel, Inanga, Common Smelt
Reid's Central Canal	No spawning sites identified	Longfinned Eel, Shortfinned Eel, Common Smelt, Inanga, Giant Bully, Yellow-eyed Mullet, Kahawai, Black Flounder	N/A
Te Puke Kaituna			
Kopuroa/Kopuaroa Canal	N/A	Common Bully, Torrentfish, Unidentified Eel	No information
Ohineangaanga Canal	Not tidal	Inanga, Common Smelt, Longfinned Eel, Shortfinned Eel, Koura, Common Bully	No information

Land Drainage Canal	Column 1	Column 2	Column 3
	Fish Species Resident in the Land Drainage Canal or its Catchment that Spawn in Tidal Areas	Fish Species Resident in Land Drainage Canal	Fish Species Resident in the Upper Catchment of the Land Drainage Canal
Raparapahoe Canal	N/A	Common Smelt	Common Smelt, Lamprey, Longfinned Eel, Redfinned Bully
Waiari Stream	Not tidal	Common Smelt, Lamprey, Longfinned Eel, Redfinned Bully, Koura, Unidentified Galaxiid	Common Bully, Shortfinned Eel, Unidentified Eel
Little Waihi Estuary			
Kaikokopu Canal	Inanga Whitebait spawning site at V14 164 747	Inanga, Cockabully, Common Bully, Common Smelt	Banded Kokopu
Pongakawa Canal	Inanga Whitebait spawning site at V14 171 745	Koura, Common Smelt, Giant Bully, Common Bully, Inanga, Shortfinned Eel, Longfinned Eel,	Giant Bully, Common Smelt, Inanga, Koura, Longfinned Eel, Banded Kokopu, Shortfinned Eel, Common Bully, Redfinned Bully
Pukehina Canal	Whitebait spawning site at V14 171 746	No information	No information
Waioeka/Otara			
Kukomoa Creek	Has flood gate – no tidal spawning	Inanga, Redfinned Bully, Common Bully, Shortfinned Eel, Longfinned Eel, Torrentfish	Common Bully, Inanga, Shortfinned Eel
Waihi Beach			
2 Mile Creek			Banded Kokopu, Common Bully, Redfinned Bully, Inanga, Common Smelt, Shortfinned Eel, Longfinned Eel
3 Mile Creek			Banded Kokopu, Common Bully, Redfinned Bully, Inanga, Common Smelt, Shortfinned Eel, Longfinned Eel
Tauranga City			
Wairakei Stream		Shortfinned Eel, Longfinned Eel	N/A
Carmichael Reserve		Giant Kokopu, Shortfinned Eel, Banded Kokopu, Longfinned Eel, Common Bully, Redfinned Bully, galaxiid	
Kaitemako Stream between the Welcome Bay Road bridge and Lochinvar Place	Inanga	Cockabully, Common Bully, Common Smelt Inanga.	

N/A – refers to drains that do not link to upper catchments streams.

Schedule 4 – High Risk Facilities

Para 1 The use of industry guidelines and codes of practice that detail management procedure to reduce the level of contaminants present in stormwater is encouraged. An example of an appropriate guideline would be the Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (Ministry for the Environment, 1998). Compliance with such guidelines represents current industry best practice. However, it is recognised that discharge quality may need to be assessed on a site specific risk and/or effects basis in sensitive environments.

	Activity	Reason for High Risk Classification
1	Mechanical workshops, service stations, and automotive dismantlers	These sites use and handle large volumes of oils and other petroleum products. Spillages of these substances are not uncommon, hence the greater risk of stormwater discharges to the environment.
2	Printers	Relatively large quantities of dyes and paints are handled at these sites. The risk of spillages is relatively high.
3	Spray painting facilities	Paints can not only be spilt at these sites but can enter stormwater as a consequence of drift from spray painting operations.
4	Meat, fish and shellfish processing industries, food and pet food processing	Wastes from these industries can typically have a high BOD (refer to the Definition of Terms). This can cause significant adverse effects when discharged into water bodies.
5	Dairy products processing.	Wastes from these industries can typically have a high BOD. This can cause significant adverse effects when discharged into water bodies.
6	Waste Management sites (transfer stations, compost sites, landfills, recycling operations, etc).	Litter, hazardous substances and high BOD wastes can all enter stormwater systems from these sites.
7	Truck wash facilities	The activity of truck washing can discharge hazardous contaminants off trucks as well as sediments and wastes from spillages on site.
8	Manufacturing and bulk storage of fertiliser.	This classification applies to permanent storage facilities that are uncovered, or where there are dispensing activities that increase the risk that fertiliser material will enter stormwater. Fertiliser can cause water quality degradation (due to eutrophication) where it enters surface water bodies.
9	Textile fibre and textile processing industries where dyeing and washing of fabric occurs.	Large quantities of dye and high BOD wastes (from wool scourers for instance) are handled on these sites. The risk of spillages that could enter stormwater is high.
10	Tanneries and leather finishing	Large quantities of dye and high BOD wastes are handled on these sites. The risk of spillages that could enter stormwater is high.
11	Footwear manufacture	Large quantities of dye and high BOD wastes are handled on these sites. The risk of spillages that could enter stormwater is high.
12	Manufacture of paper and paper products	Hazardous substances such as chlorine based bleaches and dyes are regularly handled on these sites. The risk of spillages, entering stormwater can be high.

	Activity	Reason for High Risk Classification
13	Manufacture or processing of chemicals, and of petroleum, coal, rubber and plastic products.	The risk of spillages associated with hazardous substances used in these industries can be high.
14	Manufacture of clay, glass, plaster, masonry, asbestos and related mineral products.	The risk of spillages associated with hazardous substances used in these industries can be high.
15	Manufacture of fabricated metal products, machinery and equipment.	The risk of spillages associated with hazardous substances used in these industries can be high.
16	Electroplaters, foundries, galvanising plants and metal surfacing.	The risk of spillages associated with hazardous substances used in these industries can be high.
17	Concrete batching plants and-asphalt manufacturing plants.	The risk of spillages associated with hazardous substances used in these industries can be high.
18	Stock sale yards	High BOD runoff can be associated with these sites.
19	Bakeries	Outside washing of trays, discharges and pans can result in high BOD, fats, greases and detergents entering stormwater systems.
20	Car wash and valet services	High oil, solvent and solid discharges can occur from these activities.
21	Commercial laundries (excluding service laundrettes and laundromats)	The risk of spillages associated with detergents, alkalis and salts used in this industry can be high.
22	Furniture/wood manufacturing and refinishing industries	Some of these industries work outside extensively, usually with no stormwater treatment. Contaminants such as sawdust, glues, alkali stripper solution in the stormwater coming off these sites can include high solids, BOD and high pH.
23	Timber preservation, treatment and storage sites where chemically treated timber is stored.	A range of hazardous substances are used on these sites (e.g. Copper Chrome, Arsenic, Boron and copper-quinoline compounds). In addition, timber treatment chemicals have been shown to be able to leach from treated wood in storage, contaminating water bodies and soil.
24	Paint stripping or abrasive blasting operations	May produce wastes containing heavy metals. The risk and effect of spillages is relatively high.
25	Bulk log storage	The discharge of stormwater from these sites has a high risk of contaminants entering the stormwater system.
26	Bulk storage of petroleum products	The discharge of stormwater from these sites has a high risk of contaminants entering the stormwater system.

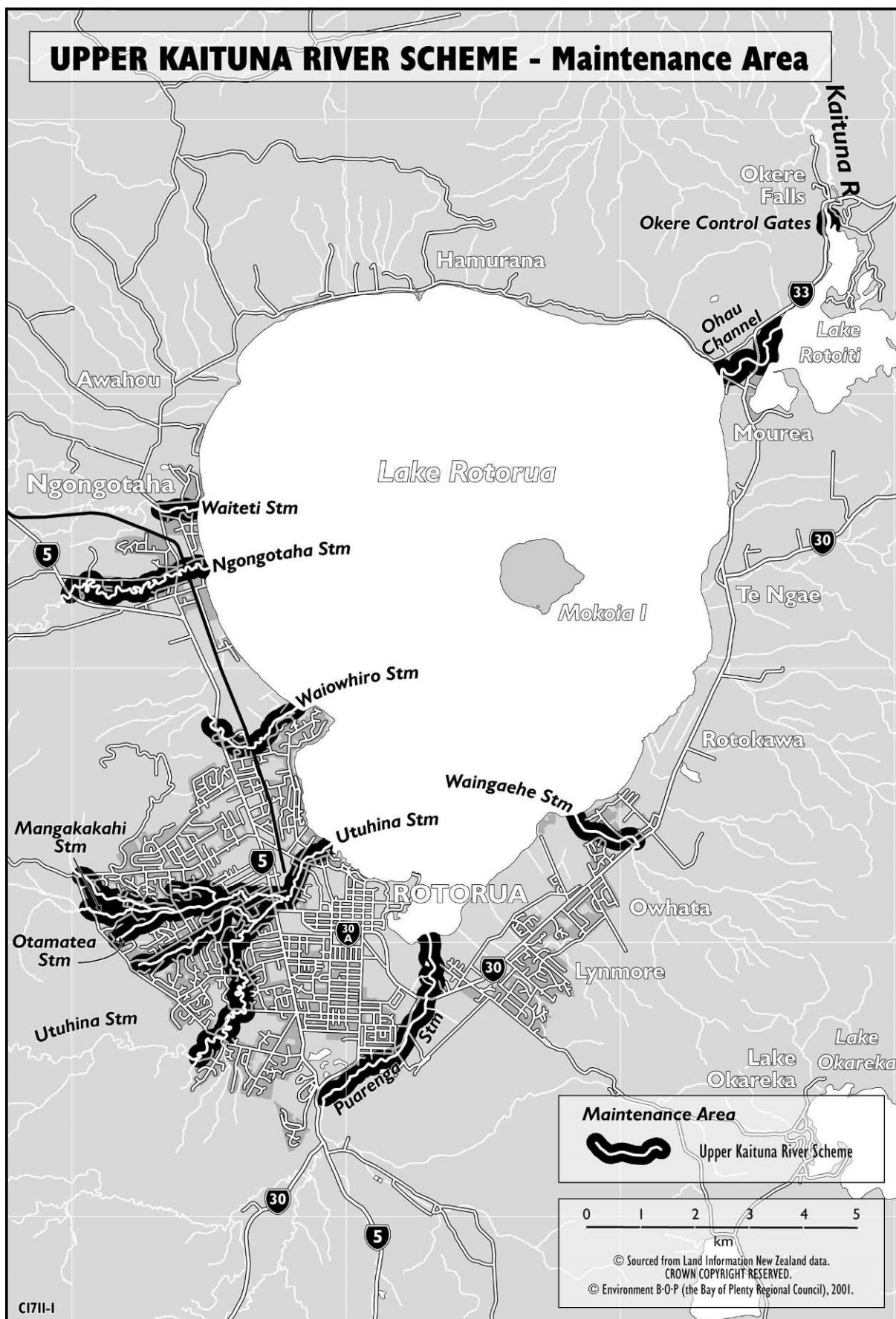
Schedule 5 – Maintenance Areas of River Schemes and Land Drainage Schemes

The following maps show the maintenance areas of river schemes and land drainage schemes that existed as of 1 January 2000.

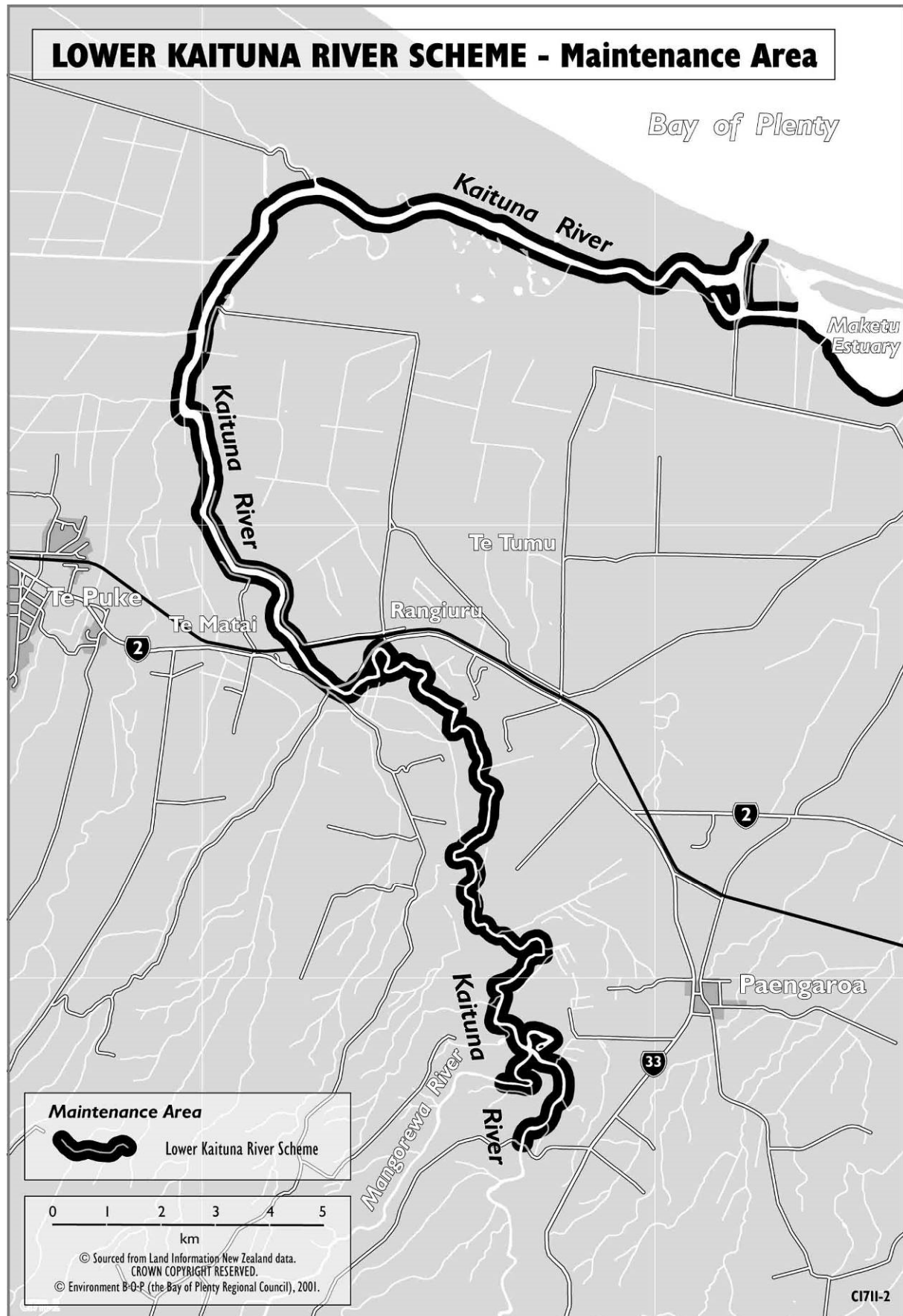
The maps show:

- River Scheme maintenance areas where maintenance works are carried out. These areas are different from the River Scheme rating areas.
- Land drainage scheme areas where maintenance works are carried out on canals, arterial drains, regional drains, pumped schemes and scheme drains within the shaded areas that are maintained by the drainage scheme administrator.

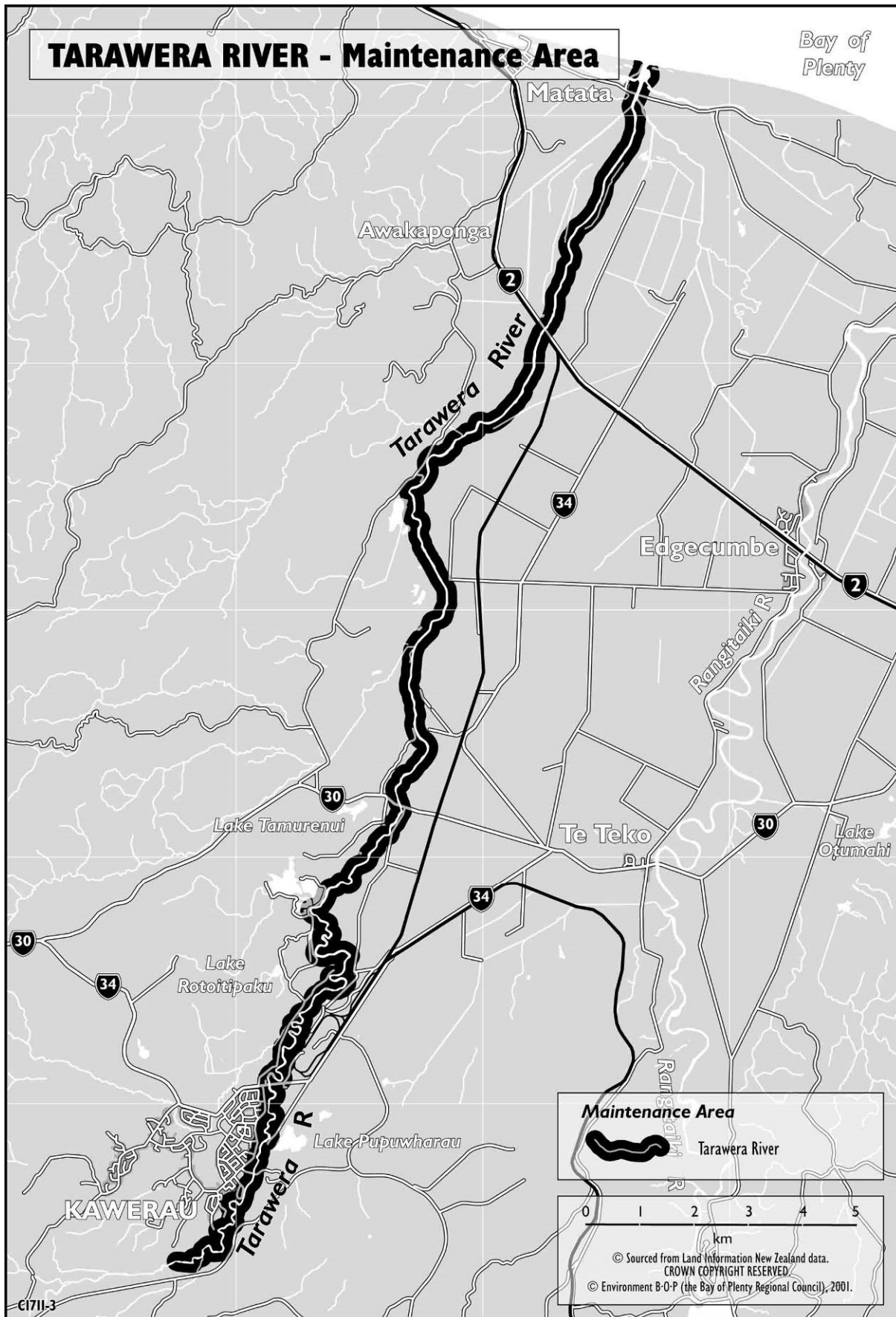
Map S5 1 – Upper Kaituna River Scheme Maintenance Area



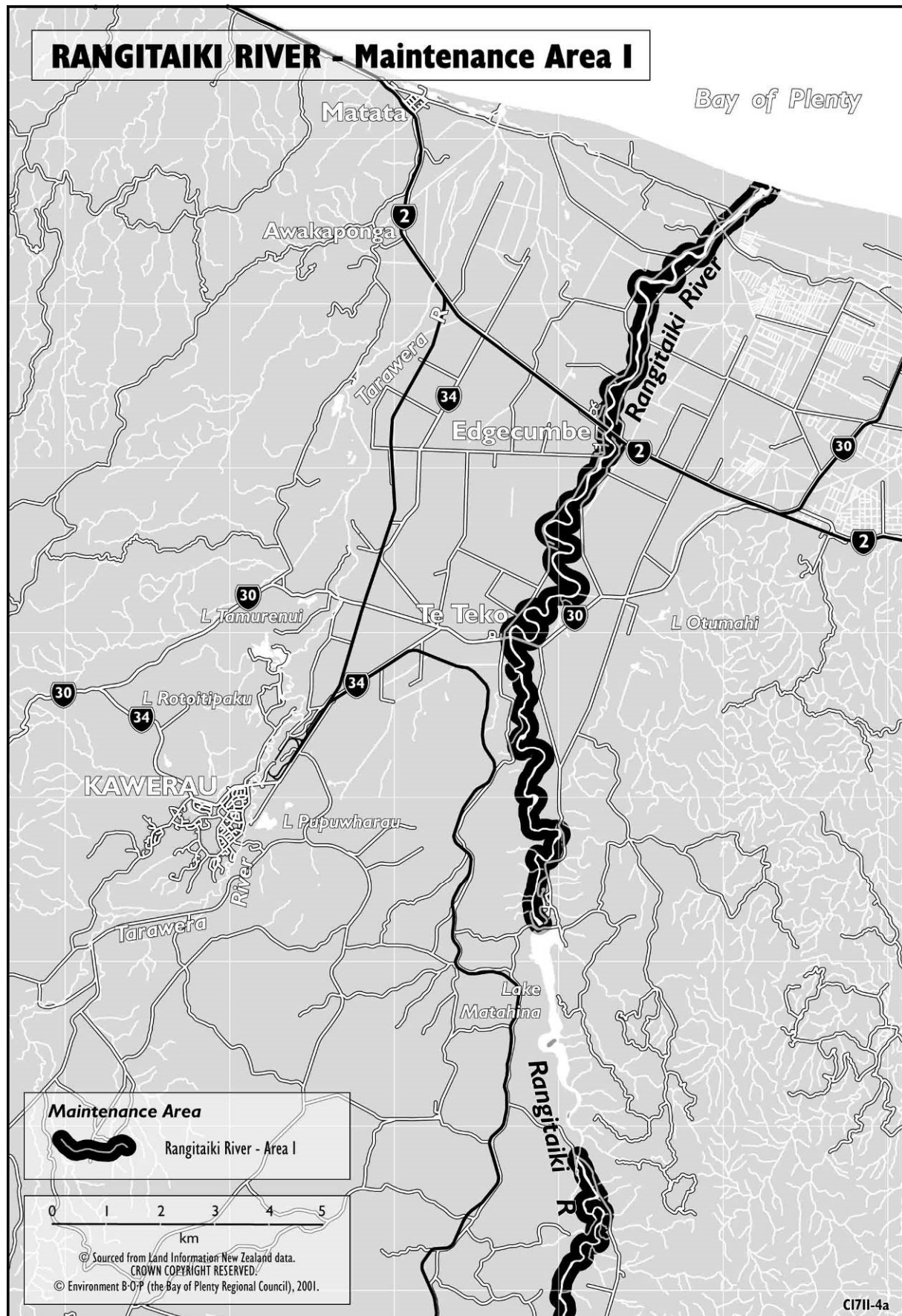
Map S5 2 – Lower Kaituna River Scheme Maintenance Area



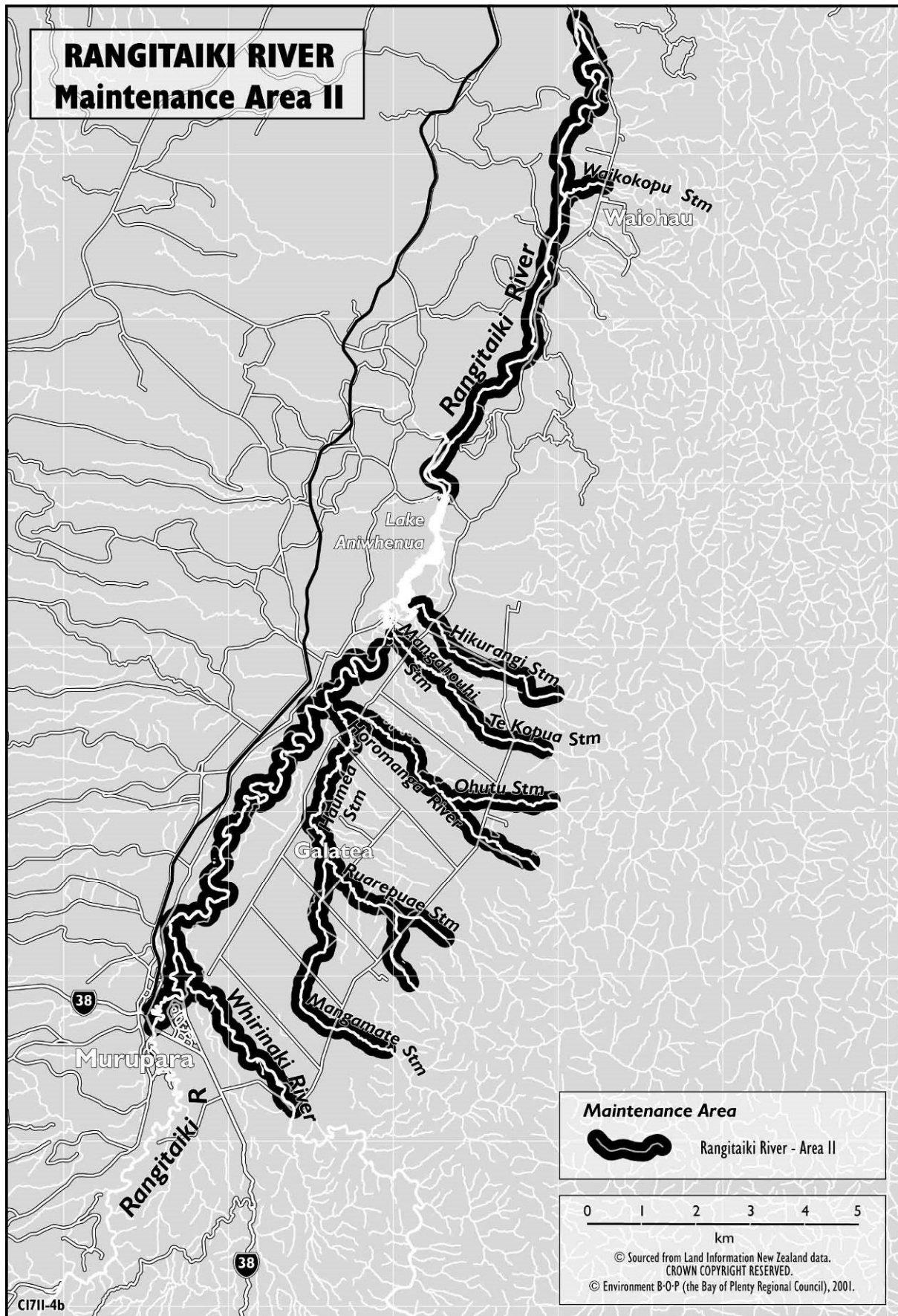
Map S5 3 – Tarawera River Scheme Maintenance Area



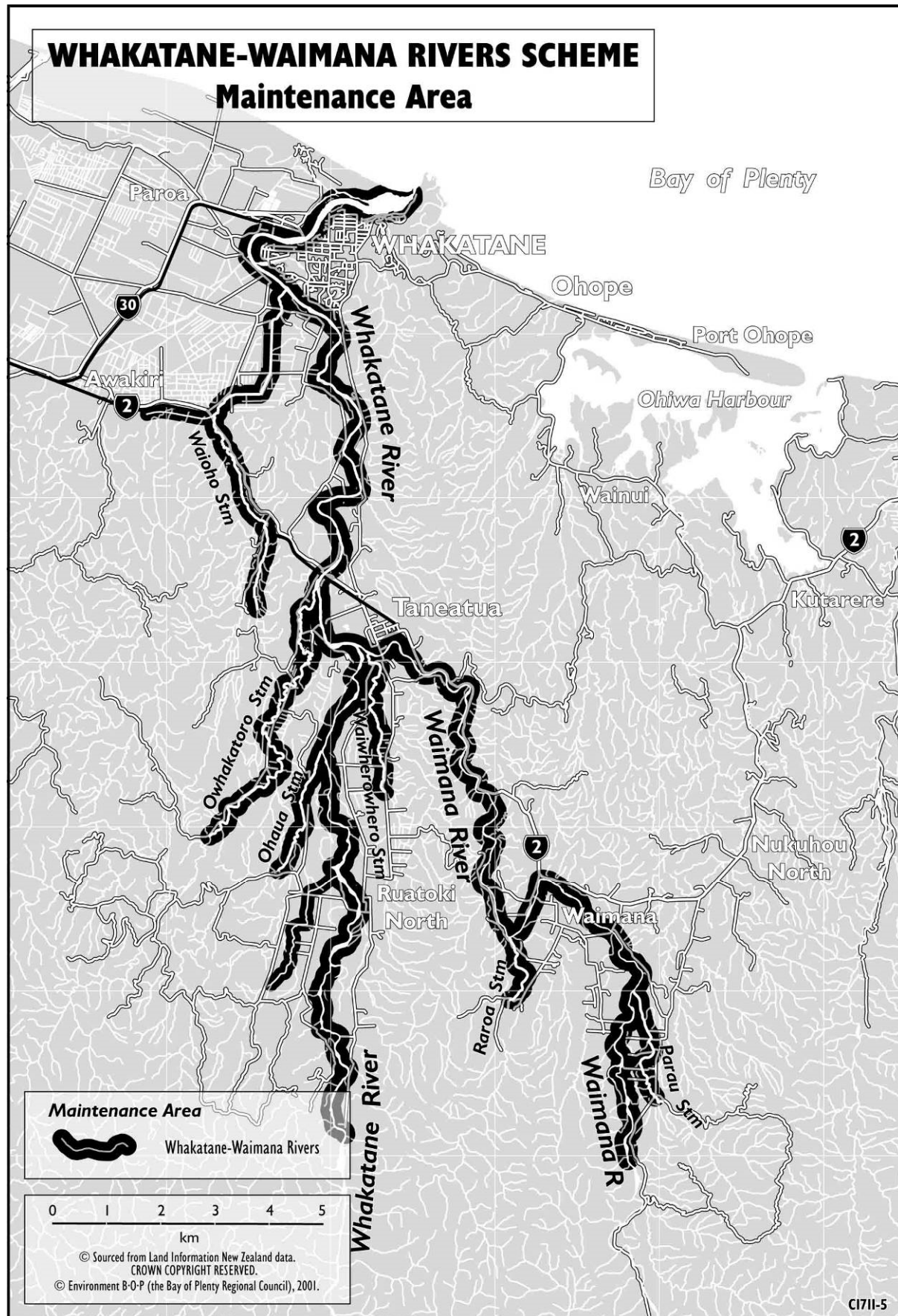
Map S5 4 – Rangitaiki River Scheme Maintenance Area I



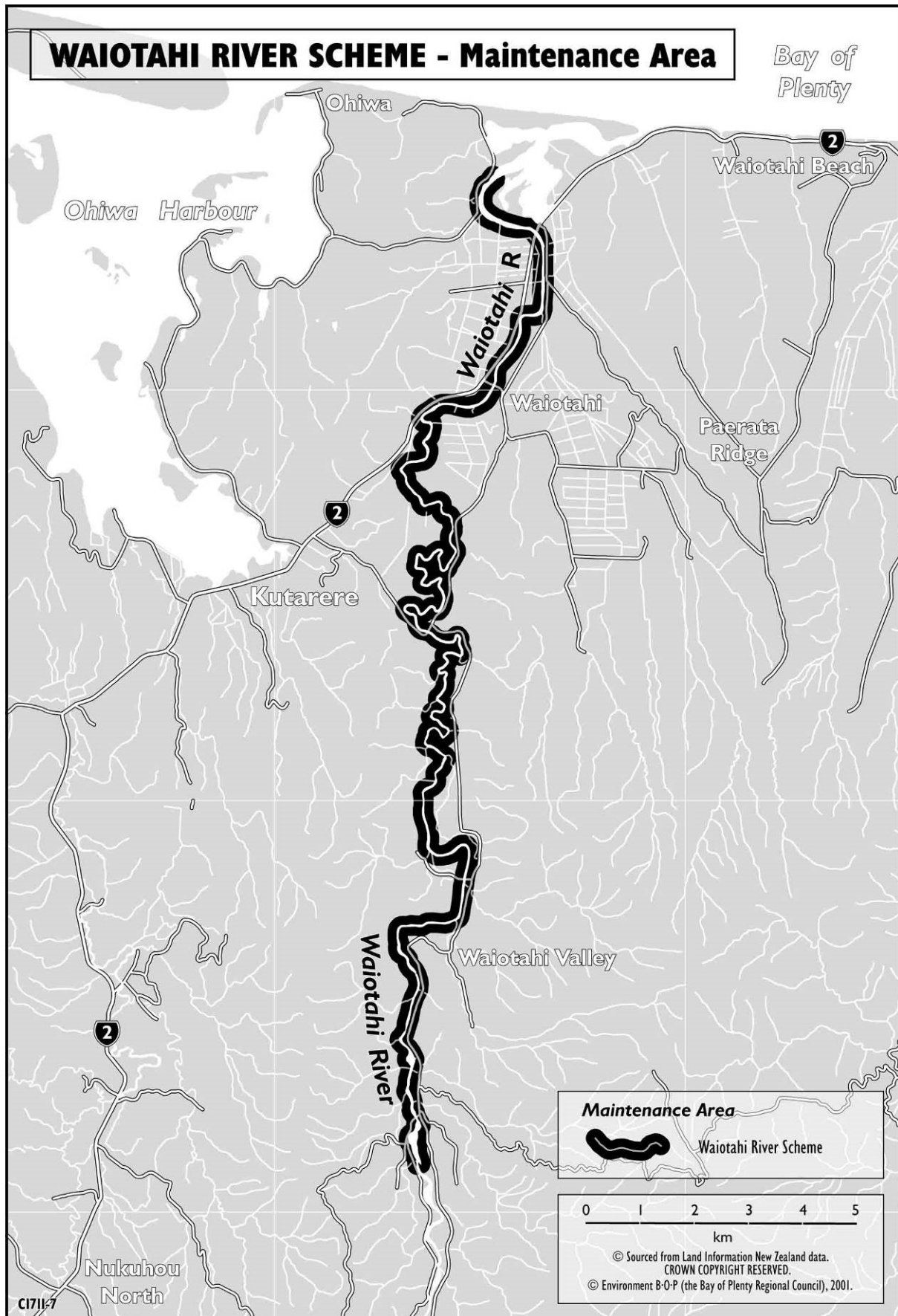
Map S5 5 – Rangitaiki River Scheme Maintenance Area II



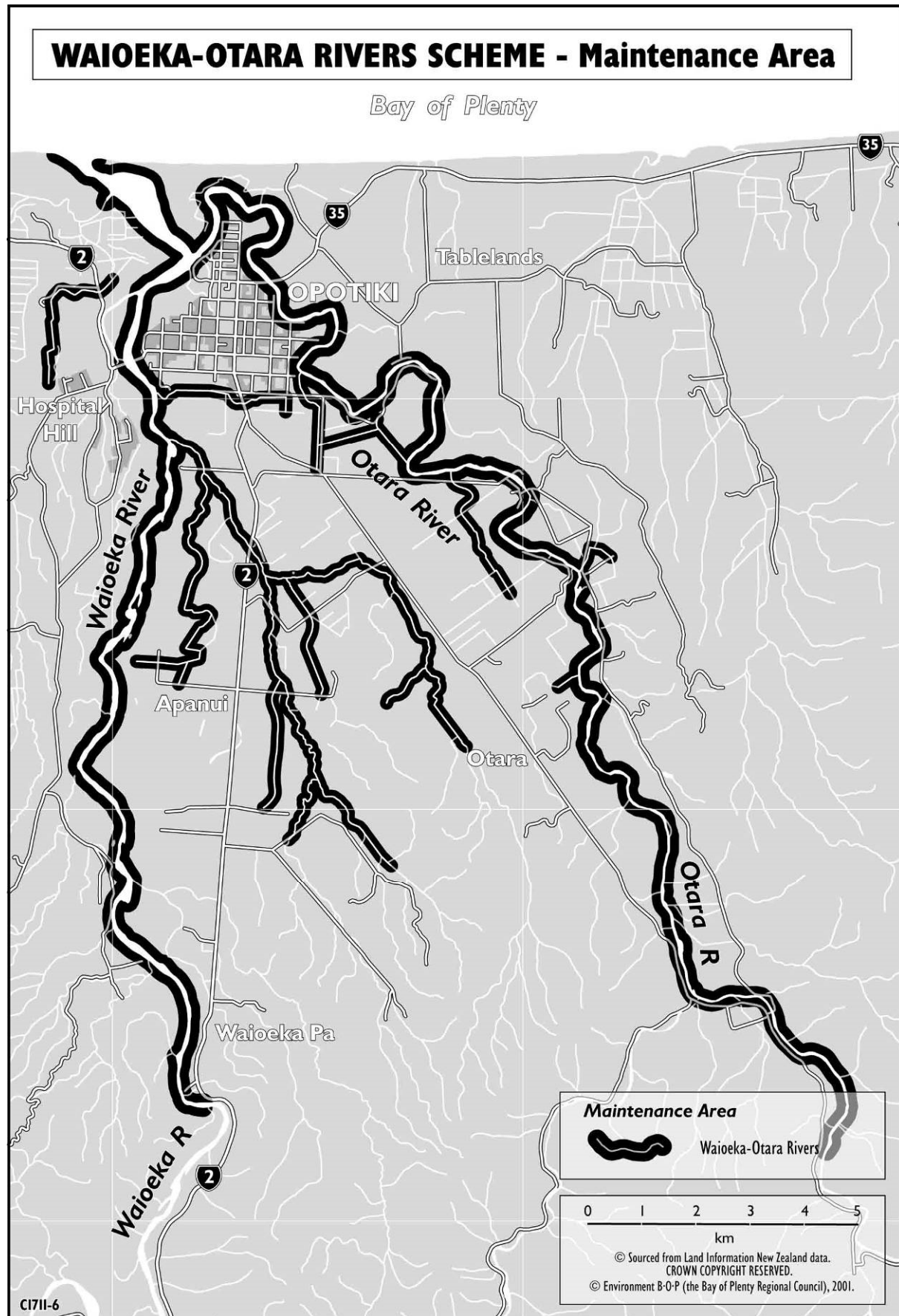
Map S5 6 – Whakatane-Tauranga Rivers Scheme Maintenance Area



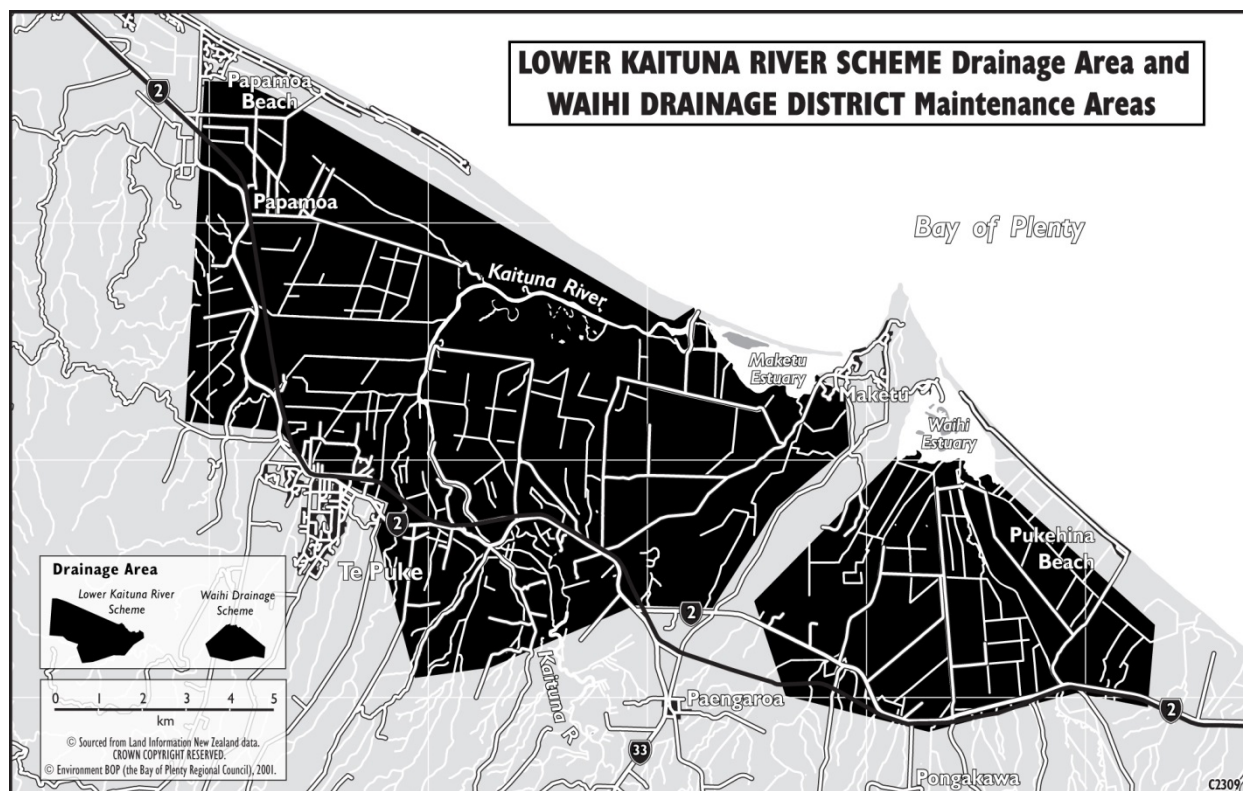
Map S5 7 – Waioatahe River Scheme Maintenance Area



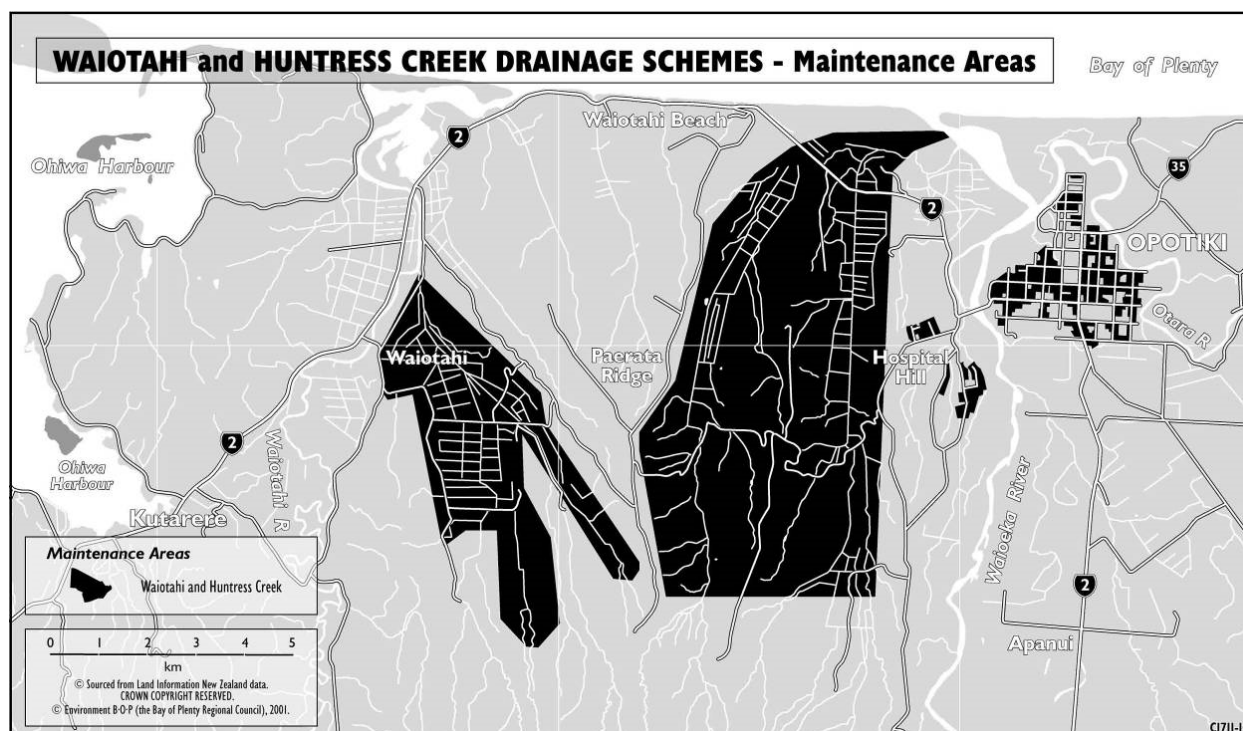
Map S5 8 – Waioeka-Otara River Scheme Maintenance



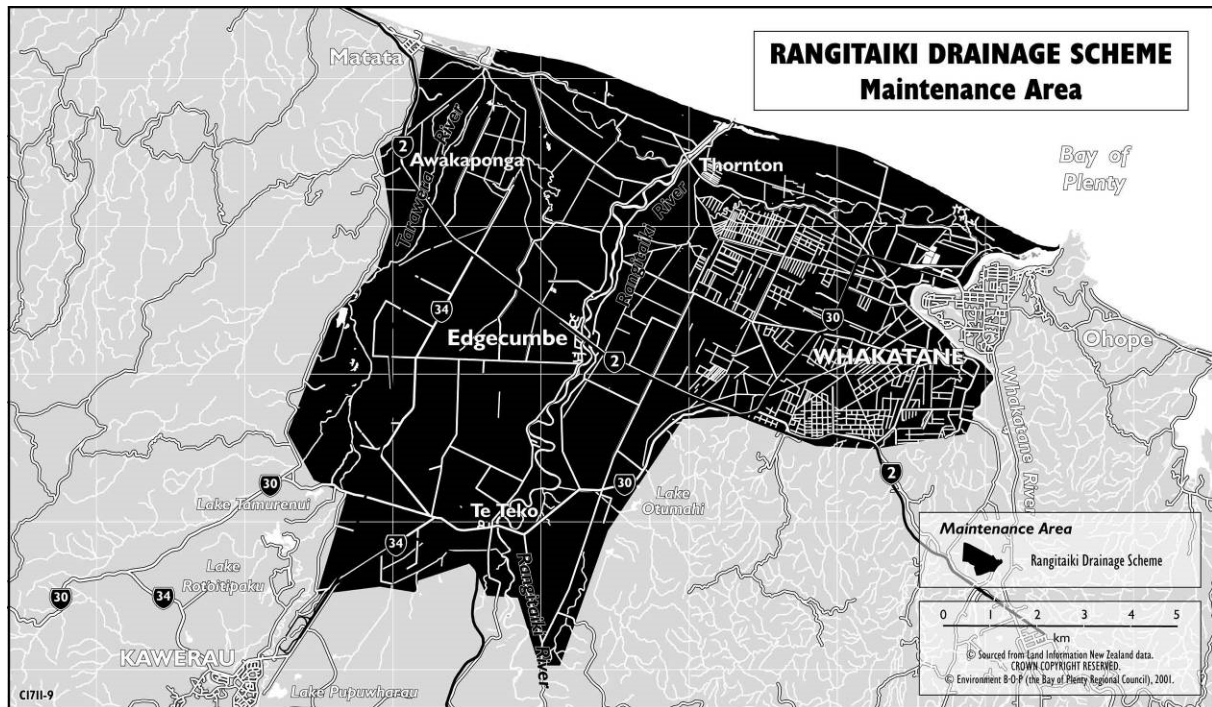
Map S5 9 – Lower Kaituna River Major Scheme Drainage Area



Map S5 10 – Waiotahi and Huntress Creek Drainage Districts



Map S5 11 – Rangitaiki Drainage District



Schedule 6 – Floodways in the Bay of Plenty

Map S6 1 - Rangitaiki Floodway

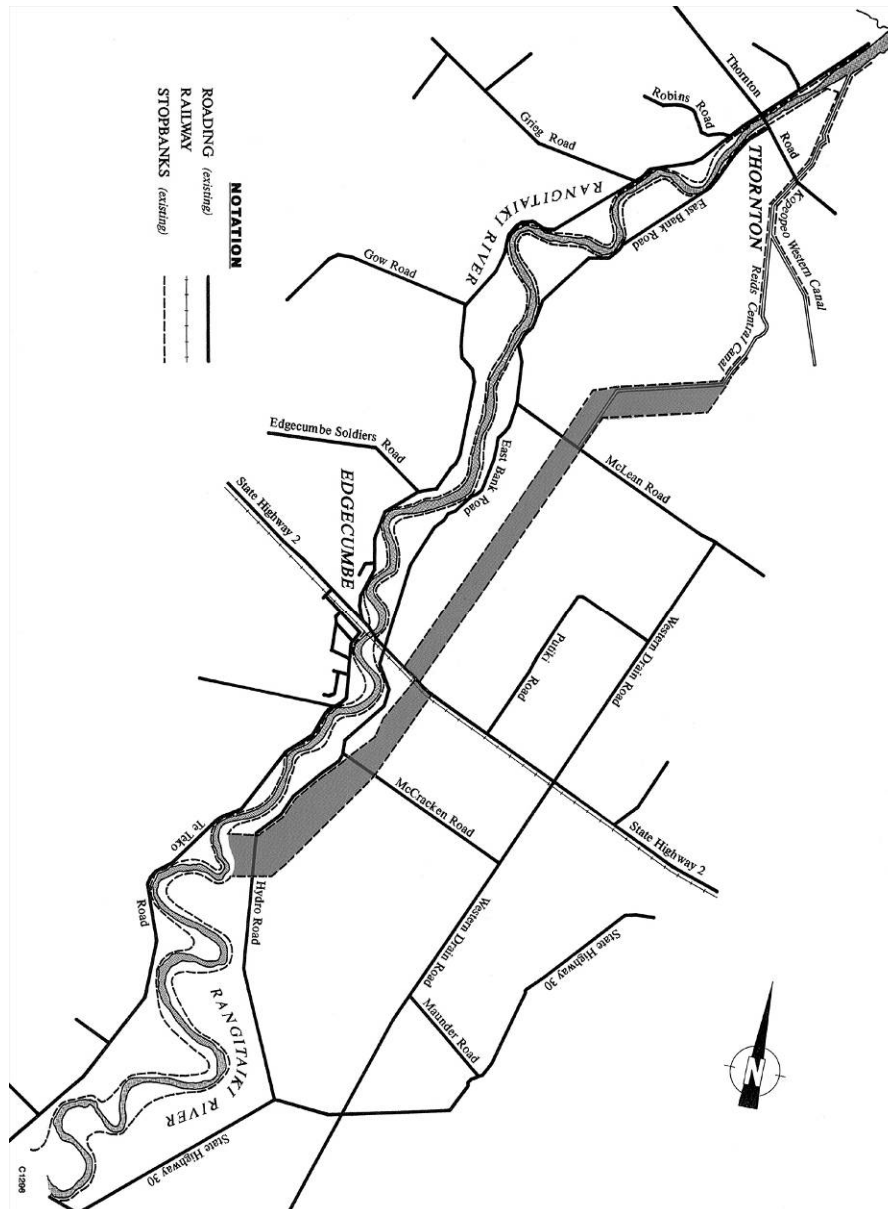
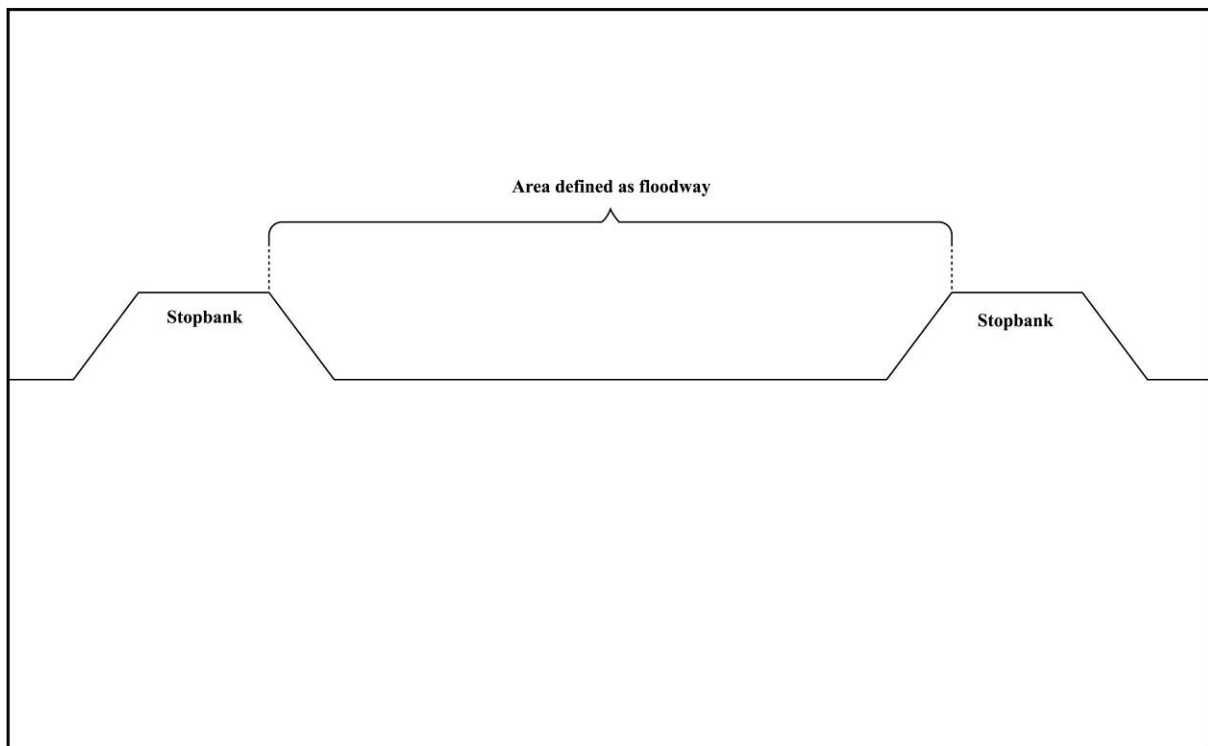


Figure S6 1 Typical Cross Section of the Rangitaiki Floodway



Schedule 7 – Instream Minimum Flow Requirements

River or Stream	Stream Reach	Instream Minimum Flow Requirement
Waitahanui Stream	From confluence with Whakahaupapa Stream to stream mouth	3.8 m ³ /s

Schedule 8 – Approved Quality Assurance Programmes and Environmental Management Plans

- Para 1 The following Quality Assurance Programmes, and specific Environmental Management Plans for an area of land comply with the requirements of BW M38 of this regional plan.
- Para 2 There are currently no approved Quality Assurance Programmes or Environmental Management Plans for a specific area of land that have been assessed by the Regional Council to comply with WQ M10 of this regional plan. A list of approved Quality Assurance Programmes or Environmental Management Plans will be added as appropriate via a plan variation or plan change.

Schedule 9 – Water Quality Classification Standards and Criteria

The Water Quality Classification Standards and Criteria in Schedule 9 will be used to assess discharges to water that are discretionary activities under DW R8, after reasonable mixing of any contaminant or water with the receiving water, and disregarding the effect of any natural perturbations that may affect the water body. A 'natural perturbation' is a change in a water body caused by natural processes, including heating by the sun or natural geothermal inputs. Natural perturbations will be taken into account when monitoring the activity. Where appropriate, the reasonable mixing zone for a discharge of contaminants to surface water is determined in accordance with DW P1 and IM M28.

Applicants are advised to determine the water quality classification applicable to their proposed activity by viewing the Water Quality Classification Map or by contacting the Regional Council for further information.

The standards and criteria listed for each classification do not prohibit additional discharges to any water body, but the effects of any additional discharge will be assessed against the relevant Water Quality Classification and RL O1.

In relation to the E.coli limits specified in Schedule 9 (1)(b), (2)(b), (3)(d), (4)(c), (5)(b), (6)(g), (9)(c), compliance will be accepted where no single monitoring sample exceeds the limits specified for the Water Quality Classification.

LM M16 and section 128 of the Act provide for the review of resource consent conditions for discharges of contaminants to water if water quality in the water body does not meet its water quality classification, and discharges are identified to be the cause of water degradation. Existing discharges will be required to comply with these water quality classifications if a significant environmental effect is being caused, and at the time of consent renewal.

Refer to the Regional Plan for the Tarawera River Catchment for the standards and criteria for Fish Spawning Purposes Upper Tarawera River, and Fish Purposes Lower Tarawera.

The following water quality classification standards reference the ANZECC Guidelines for Fresh and Marine Water Quality, 2000 (ANZECC 2000). ANZECC 2000 set 'trigger levels' for contaminant levels, but allow for 'guideline levels' to be determined for specific sites based on geological areas. For example, guideline values for geothermally influenced streams will be different from those for marine water. Methodology for determining 'guideline values' is set in ANZECC 2000. Over time the Regional Council will be determining 'guideline levels' for the Bay of Plenty in accordance with IM M23. However, resource consent applicants may use alternative limits that otherwise comply with the narrative standards in Schedule 9, providing these are scientifically justified for the proposed activity, site characteristics and values. Where the standards reference the ANZECC 2000 guidelines, compliance will be assessed in accordance with either (a), (b) or (c):

- (a) Discharges of contaminants to water shall comply with the trigger levels in the ANZECC 2000 guidelines in relation to the appropriate protection level for the receiving environment. The range of protection levels is set in ANZECC 2000 in relation to the state and value of a water body. These are:
 - (i) High conservation/ecological value – 99%
 - (ii) Slightly to moderately disturbed ecosystems – 95 – 99%
 - (iii) Highly disturbed ecosystems – 80 – 90%

- (b) Resource consent applicants wishing to discharge contaminants at a higher level than the trigger levels in the ANZECC 2000 guidelines (where no other guideline levels have been determined for that site in accordance with IM M23) are to determine appropriate guideline levels (site-specific criteria) in accordance with the methodology set in ANZECC 2000. Documentation of this process and justification for the guideline levels are required as part of a resource consent application. Resource consent applicants should also consider the appropriate aquatic ecosystem protection level for the site, and reasonable mixing zone.
- (c) Resource consent applicants are to provide scientific justification for alternative limits that are appropriate to the sensitivity of the receiving environment and instream values, and otherwise comply with the narrative standards in Schedule 9 of this regional plan.

In relation to Schedule 9 3(c), 4(d), 5(d), 6(e), 7(c), 8(b) and 9(d), the following species shall be used as indicators to assess compliance for 'undesirable biological growths': growths where organisms of the genus *Spaeroglossa*, *Zooplankton*, or *Beggiatoa* are present. Appropriate levels for biological growths resulting from a discharge to water will be set on a case by case basis in relation to reasonable mixing, natural perturbations and relevant characteristics of the receiving water body. Natural perturbations will be taken into account when monitoring the discharge and the receiving environment.

1 Natural State (Lake) Water Quality Classification

Any discharge of contaminants or water to water in a lake classified as Natural State (Lake) in the Water Quality Classification Map shall not alter the natural quality of the water after reasonable mixing of the discharge with the receiving water. The standards and criteria that apply to Natural State (Lake) are:

- (a) There shall be no change in water quality parameters as a result of the discharge that causes a decrease in water quality, including, but not limited to:
 - (i) No increase in temperature.
 - (ii) No change in pH.
 - (iii) No increase in suspended solids.
 - (iv) No decrease in dissolved oxygen.
- (b) The discharge shall not cause the *E. coli* level to exceed 126 cfu/ml as measured by a single sample.
- (c) Aquatic organisms, fish and other food resources shall not be rendered unsuitable for human consumption by the presence of contaminants as a result of the discharge (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴⁰).
- (d) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no (0%) decrease in secchi disc depth or black disc range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).
 - (v) Any adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

⁴⁰ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

- (e) There shall be no net increase of nitrogen or phosphorus in the lake as a result of the discharge. This means the mass of nitrogen or phosphorus being discharged directly to surface water or to groundwater, after taking into account mitigation or offset measures, is not above that entering surface water or groundwater from the activity site prior to the discharge.

Explanation/Intent of Classification

To ensure that the natural water quality in lakes classified as Natural State (Lake) is not altered by discharges to the lake. Such lakes are to be protected in their existing high quality state.

2 Natural State (River) Water Quality Classification

Any discharge of contaminants or water to water in a river or stream classified as Natural State (River) in the Water Quality Classification Map shall not alter the natural quality of the water after reasonable mixing of the discharge with the receiving water. The standards and criteria that apply to Natural State (River) are:

- (a) There shall be no change in water quality parameters as a result of the discharge that causes a decrease in water quality, including, but not limited to:
 - (i) No increase in temperature.
 - (ii) No change in pH.
 - (iii) No increase in suspended solids.
 - (iv) No decrease in dissolved oxygen.
- (b) The discharge shall not cause the *E. coli* level to exceed 126cfu/ml as measured by a single sample.
- (c) Aquatic organisms, fish and other food resources shall not be rendered unsuitable for human consumption by the presence of contaminants as a result of the discharge (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴¹).
- (d) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no (0%) decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).
 - (v) Any adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

To ensure that the natural water quality in streams and rivers classified as Natural State (River) is not altered by discharges to the water body. Such streams and rivers are to be protected in their existing high quality state, which is under protected indigenous forest cover. It is recognised that the 'natural state' of rivers in the region will vary according to underlying geology and other natural influences. The *E. coli* limit is set to allow for bathing suitability in downstream river reaches, and recognises the cumulative inputs from upper catchments.

⁴¹ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

3 Managed State (Lake) Water Quality Classification

Any discharge of contaminants or water to water in a lake classified as Managed State (Lake) in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The natural temperature of the water shall not be changed by more than 3 degrees Celsius.
- (b) There shall be no net increase of nitrogen or phosphorus in the lake as a result of the discharge. This means the mass of nitrogen or phosphorus being discharged directly to surface water or to groundwater, after taking into account mitigation or offset measures, is not above that entering surface water or groundwater from the activity site prior to the discharge.
- (c) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the lake.
- (d) The discharge shall not cause the *E. coli* level to exceed 126 cfu/ml as measured by a single sample.
- (e) Aquatic organisms, fish and other food resources shall not be rendered unsuitable for human consumption by the presence of contaminants as a result of the discharge (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴²).
- (f) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 10% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).
 - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

To ensure that the water quality in lakes classified as Managed State (Lake) is maintained or improved to meet the established standards and criteria. The classification is applied to those lakes that are affected by human activities and may have degraded water quality. The *E.coli* limit is set to allow for bathing suitability. The standards and criteria are a combination of important water quality indicators, including factors used in the water quality classes of Schedule 3 of the Act.

4 Aquatic Ecosystem (Bay of Plenty) Water Quality Classification

Any discharge of contaminants or water to water in a river or stream classified as Aquatic Ecosystem (Bay of Plenty) in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The natural temperature of the water shall not be changed by more than 3 degrees Celsius as a result of the discharge.
- (b) The discharge shall not cause the dissolved oxygen level to fall below 80% of saturation concentration.

⁴² Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

- (c) The discharge shall not cause the *E. coli* level to exceed 126 cfu/ml as measured by a single sample.
- (d) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the river or stream.
- (e) Aquatic organisms, fish and other food resources shall not be rendered unsuitable for human consumption by the presence of contaminants as a result of the discharge (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴³).
- (f) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 10% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).
 - (v) No more than minor adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

To ensure that the aquatic ecological values of rivers and streams classified as Aquatic Ecosystem (Bay of Plenty) are protected from the adverse effects of discharges. Such streams provide habitat for indigenous species or trout. The standards and criteria are based on the AE (aquatic ecosystem) water quality class of Schedule 3 and section 70 of the Act. Condition (e) provides for food gathering, including trout fishing for consumption. The *E. coli* limit is set to allow for bathing suitability in downstream river reaches, and recognise the cumulative inputs from upper catchments.

5 Contact Recreation Water Quality Classification

Any discharge of contaminants or water to water in a river or stream classified, as Contact Recreation in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The discharge shall not cause the visual clarity of the water to fall below 1.6 m of a horizontal sighting distance of a 200 mm black disc (from Water Quality Guidelines Number 2, Ministry for the Environment, June 1994)⁴⁴.
- (b) The discharge shall not cause the *E. coli* level to exceed 126 cfu/ml as measured by a single sample.
- (c) The water shall not be rendered unsuitable for bathing by the presence of contaminants as a result of the discharge at levels exceeding those specified in the Recreational Water Quality Guidelines, Ministry of Health/Ministry for the Environment, November 1999⁴⁵.
- (d) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.

⁴³ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

⁴⁴ Ministry for the Environment, June 1994. Water Quality Guidelines Number 2. Wellington, New Zealand.

⁴⁵ Ministry of Health/Ministry for the Environment, November 1999. Recreational Water Quality Guidelines. New Zealand.

- (e) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity, subject to (a).
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴⁶).
 - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

To ensure that the contact recreation values of rivers and streams classified as Contact Recreation are protected from the adverse effects of discharges. The standards and criteria are based on the CR (contact recreation) water quality class of Schedule 3 and section 70 of the Act, and relevant national standards. The *E. coli* limit is set to allow for bathing suitability.

6 Water Supply Water Quality Classification

Any discharge of a contaminant or water to water in a stream or river classified as Water Supply in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The discharge shall not cause the pH of the surface water to exceed 9.0 units, or fall below 6.0 units.
- (b) The discharge shall not cause the dissolved oxygen level to fall below 5 grams per cubic metre.
- (c) The water shall not be rendered unsuitable for treatment (equivalent to coagulation, filtration, disinfection or micro-filtration) for human consumption by the presence of contaminants as a result of the discharge.
- (d) The water shall not be tainted or contaminated so as to make it unpalatable or unsuitable for consumption by humans after treatment (equivalent to coagulation, filtration, disinfection and micro-filtration), or unsuitable for irrigation as a result of the discharge.
- (e) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (f) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴⁷).
 - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).
- (g) The discharge shall not cause the *E. coli* level to exceed 126 cfu/ml as measured by a single sample.

⁴⁶ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

⁴⁷ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

- (h) The discharge shall not contain any hazardous substance that presents a risk to human health, or which renders water untreatable to a potable quality (as defined by the Ministry of Health).
- (i) The natural temperature of the water shall not be changed by more than one (1) degree Celsius as a result of the discharge.

Explanation/Intent of Classification

To ensure that the municipal water supply values of rivers and streams classified as Water Supply are protected from the adverse effects of discharges. The standards and criteria are based on the WS (water supply) water quality class of Schedule 3 and section 70 of the Act, and relevant national standards.

7 Modified Watercourses with Ecological Values Water Quality Classification

Any discharge of a contaminant or water to water in a watercourse classified as Modified Watercourses with Ecological Values in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The temperature of the water:
 - (i) Shall not be changed by more than 3 degrees Celsius; and
 - (ii) Shall not exceed 18 degrees Celsius, as a result of the discharge.
- (b) The concentration of dissolved oxygen shall not be lowered as a result of any discharge of a contaminant into the water.
- (c) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (d) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴⁸).
 - (v) Any more than minor adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

Modified Watercourses with Ecological Values water quality classification is to maintain water quality in specific watercourses (refer to the Water Quality Classification Map) in order to maintain the aquatic habitats and migratory pathways of indigenous fish species that are present in the watercourse. This classification has only been applied to modified watercourses that are part of land drainage systems (referred to as Land Drainage Canals) that provide aquatic habitats or migratory pathways for indigenous fish species. The conditions reflect the need to minimise any further degradation of water quality in modified watercourses used for land drainage, and the somewhat limited opportunity to improve water quality in these watercourses. The standards and criteria are based on section 70 of the Act, and relevant national standards. This classification links to Schedule 3. Condition (a) means that there shall not be more than a 3 degree Celsius change in water temperature as a result of the discharge while the ambient water temperature remains below 18 degrees Celsius. Once the ambient

⁴⁸ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

water temperature exceeds 18 degrees Celsius there shall be no measurable increase in water temperature as a result of the discharge after reasonable mixing.

8 Drain Water Quality Classification

Any discharge of a contaminant or water to water in a watercourse classified as Drain Water Quality in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The temperature of the water:
 - (i) Shall not be changed by more than 3 degree Celsius; and
 - (ii) Shall not exceed 25 degrees Celsius, as a result of the discharge.
- (b) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (c) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁴⁹).
 - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

The Drain Water Quality Classification is to set minimum standards and criteria for any discharge to water in an open drain to prevent further degradation of water quality, particularly in receiving environments. The conditions recognise that water quality in drains is already poor, and the somewhat limited opportunity to improve water quality in these watercourses. Condition (c) is directly from section 70(1) of the Act, which are the minimum conditions for discharge quality. Condition (a) means that there shall not be more than a 3 degree Celsius change in water temperature as a result of the discharge while the ambient water temperature remains below 25 degrees Celsius. Once the ambient water temperature exceeds 25 degree Celsius there shall be no measurable increase in water temperature as a result of the discharge after reasonable mixing.

9 Regional Baseline (Bay of Plenty) Water Quality Classification

Any discharge of a contaminant or water to water in a river or stream classified as Regional Baseline (Bay of Plenty) in the Water Quality Classification Map shall not alter the quality of the water beyond the following standards and criteria after reasonable mixing of the discharge with the receiving water:

- (a) The natural temperature of the water shall not be changed by more than 3 degrees Celsius as a result of the discharge.
- (b) The discharge shall not cause the dissolved oxygen level to fall below 80% of saturation concentration.

⁴⁹ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

- (c) The discharge shall not cause the *E. coli* level to exceed 410 cfu/ml as measured by a single sample.
- (d) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water.
- (e) The discharge of contaminants (either by itself or in combination with the same, similar, or other contaminants) or water to water shall not cause:
 - (i) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials.
 - (ii) Any conspicuous change in the colour or visual clarity. There shall be no greater than 20% decrease in secchi disc depth or black disk range.
 - (iii) Any emission of objectionable odour (refer to the Operative Bay of Plenty Regional Air Plan).
 - (iv) The rendering of fresh water unsuitable for consumption by farm animals (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000⁵⁰).
 - (v) Any significant adverse effects on aquatic life (refer to ANZECC Guidelines for Fresh and Marine Water Quality, 2000).

Explanation/Intent of Classification

The Regional Baseline (Bay of Plenty) water quality classification is to maintain water quality for general water usage in rivers and streams that have not otherwise been classified to a specific standard. The standards and criteria are a combination of standards and criteria from other water quality classes in this regional plan and in Schedule 3 of the Act. Conditions (a), (b), (d) and (e) are general limits used for consistency with other water quality classifications used in this regional plan. Condition (c) allows for the water quality to generally meet the bathing suitability guidelines (single sample limit), although the water body will occasionally fail such guidelines.

⁵⁰ Australian and New Zealand Environment and Conservation Council, 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. New Zealand.

Schedule 10 – Freshwater Bathing Sites

The listed sites are those monitored as part of the Bathing Suitability investigations, and have been identified by the community and the Regional Council as major bathing areas in the region.

	Stream or Lake	Location of Monitoring
	River and Stream Sites	
1	Haparapara River	State Highway 35
2	Waioeka River	Waioeka Gorge mouth
3	Tauranga River	Te Paakau
4	Tauranga River	Wardlaw Glade
5	Whakatane River	Landing Road Bridge
6	Whakatane (Ohinemataroa) River	Ruatoki Valley Road (Waikirikiri)
7	Rangitaiki River	Murupara
8	Rangitaiki River	Te Teko
9	Tarawera River	Kawerau
10	Puarenga Stream	Whakarewarewa
11	Kaituna River	The Trout-pool
12	Utuhina Stream	Pukehangi Road
13	Ngamuwahine River	
14	Wairoa River	McLaren Falls
15	Wairoa River	Bethlehem
16	Uretara Stream	Katikati
17	Tuapiro Stream	McMillan Road
	Lake Sites	
18	Lake Rotoiti	Hinehopu
19	Lake Rotoiti	Gisborne Point
20	Lake Rotorua	Haumurana
21	Lake Rotorua	Waiteti Stream
22	Lake Rotorua	Ngongotaha
23	Lake Okareka	
24	Lake Okaro	

Schedule 11 – Lawfully Existing Hydroelectric Power Schemes

The hydroelectric power schemes listed below existed at the date this regional plan become operative and are subject to WQ R20 when applications are made to replace existing resource consents.

	Hydroelectric Power Scheme	Description
(a)	Kaimai	<p>Lloyd Mandeno Power Station – damming of nine streams; take of water from these streams; discharge of water to Lake Mangaonui; take and use of water from Lake Mangaonui; discharge to Mangapapa River.</p> <p>Lower Mangapapa Power Station – damming of Mangapapa River to form Lake Matariki/Mangapapa; take and use of water; discharge to lake McLaren.</p> <p>Ruahiri Power Station – Take of water from Mangakarengorengo River; discharge of water to Lake McLaren; take of water from Lake McLaren via canal to Ruahihi Power Station; discharge to Wairoa River; release of water from McLaren Falls Power Station for recreational purposes.</p>
(b)	Wheao	Damming of water in Wheao River, Rangitaiki River and Flaxy Creek; take and use of water for power generation; discharge of water from Wheao Dam.
(c)	Matahina	Damming of water in the Rangitaiki River; take and use of water for power generation; discharges to the Rangitāiki River.
(d)	Aniwhenua	Damming of water in the Rangitaiki River, Pokairoa Stream and Pahekeheke Stream; take and use of water for power generation; discharge to the Rangitaiki River.
(e)	Karaponga	Damming of water in the Karaponga Stream; take and use water; discharge to the Karaponga Stream.

Schedule 12 – Removed to give effect to the National Environmental Standards for Plantation Forestry Regulations 2017

Schedule 13 – Statutory Acknowledgements in the Bay of Plenty Region

Five statutory acknowledgements apply to the Bay of Plenty Region – these relate to the Ngati Awa, Ngāti Tuwharetoa, Te Arawa Lakes, and Affiliate Te Arawa Iwi and Hapu (two) deeds of settlement⁵¹.

References to the relevant statutory subparts:

- Ngati Awa Claims Settlement Act 2005, Part 4 Cultural redress, Subpart 3—Statutory acknowledgements and deeds of recognition. (In accordance with section 45, Recording statutory acknowledgements on statutory plans, of that Act.) Date of Royal Assent: 24 March 2005. Statutory Acknowledgement effective date: 26 October 2005.
- Ngati Tuwharetoa (Bay of Plenty) Claims Settlement Act 2005, Part 4 Cultural redress, Subpart 3—Statutory acknowledgements and deeds of recognition. (In accordance with section 42, Recording statutory acknowledgements on statutory plans, of that Act.) Date of Royal Assent: 23 May 2005. Statutory Acknowledgement effective date: 22 December 2005.
- Te Arawa Lakes Settlement Act 2006, Part 3 Other cultural redress, Subpart 3—Statutory acknowledgement. (In accordance with section 65, Recording of statutory acknowledgement on statutory plans, of that Act.) Date of Royal Assent: 25 September 2006. Statutory Acknowledgement effective date: 25 April 2007.
- Affiliate Te Arawa Iwi and Hapu Claims Settlement Act 2008, Part 2 Cultural redress, Subpart 2—Statutory acknowledgement, geothermal statutory acknowledgement, and deed of recognition. (In accordance with section 32, Recording statutory acknowledgement on statutory plans, of that Act.) Date of Royal Assent: 29 September 2008.
- Affiliate Te Arawa Iwi and Hapu Claims Settlement Act 2008, Part 2 Cultural redress, Subpart 2—Statutory acknowledgement, geothermal statutory acknowledgement, and deed of recognition. (In accordance with section 40, Recording geothermal statutory acknowledgement on statutory plans, of that Act.) Date of Royal Assent: 29 September 2008.

⁵¹ The full text of statutory acknowledgements applying in the Bay of Plenty Region is also available in a separate document available from Environment Bay of Plenty and on www.envbop.govt.nz.

Schedule 14 – Standards for the Construction, Reconstruction, Maintenance or Decommissioning of Holes, Bores, Wells and Infiltration Galleries

Section 1 Bore, Wells and Infiltration Gallery Maintenance Requirements	
a)	All bores, wells or infiltration galleries shall have sufficient surrounding open space to allow access for maintenance, monitoring, testing or decommissioning.
b)	The headworks of the bore shall be maintained and the annular space between the casing and the hole shall be sealed from the surface to: <ul style="list-style-type: none"> (i) Prevent the entry of contaminants; and (ii) Control subsurface pressures; and (iii) Prevent any movement of the casing until the bore is decommissioned.
c)	All wells and water infiltration galleries shall be maintained to prevent the entry of contaminants to groundwater or an aquifer.
Section 2 Construction and Reconstruction Requirements	
2.1 General Requirements	<ul style="list-style-type: none"> a) All equipment used for drilling and bore or well construction, and their maintenance, shall be kept clean to prevent the entry of contaminants to groundwater. b) All chemicals, drilling fluid additives, grout materials used in the construction and operation of the bore or well shall be prepared and used in accordance with the manufacturers' instructions. c) The driller shall have available manufacturers' guidelines and material safety data sheets for chemicals, drilling fluid additives, grout materials. This shall include instructions for handling, preparation, use, potential hazards, and disposal requirements for the materials and their containers.
2.2 Drilling fluids and additives	<ul style="list-style-type: none"> a) Drilling fluid must not be discharged directly to water. b) Drilling fluid must be discharged to land, with measures taken to ensure that there is no runoff into surface waterways. c) All grout materials used shall be suitable in terms of its composition, density, strength and corrosion resistance for the site and installation conditions. d) Grout additives that could leave a residual toxicity in groundwater shall not be used. e) Water used for drilling fluid or grouting shall be free of substances or contaminants that may adversely affect the strength of the grout or grout setting time. f) Bentonite shall contain no added substances that may adversely affect the strength of the grout or grout setting time, or result in a discharge that affects groundwater quality.
2.3 Casing	<ul style="list-style-type: none"> a) All casing materials used (including temporary casing) shall be suitable in terms of its composition, cleanliness, strength and corrosion resistance for site and installation conditions, and the use of the bore. b) Bore casing shall be secure, leak-proof, and suitable to withstand the stress of installation, bore testing and bore use.
2.4 Screens	<ul style="list-style-type: none"> a) All screen material (including temporary screen material) shall be suitable, in terms of its composition, cleanliness, strength and corrosion resistance for the site and installation conditions and the use of the bore. b) The screen slot size shall be appropriate for the aquifer and the gravel pack grain size and grading. c) The screen shall be securely sealed to the casing to prevent entry of rock or soil or gravel pack material into the bore.

2.5 Gravel Pack	<ul style="list-style-type: none"> a) The gravel pack shall consist of non-toxic, washed, rounded gravel of selected grain size and gradation, free of material that may decay or disintegrate during installation, development and bore use. b) No more than two percent by weight of the gravel pack shall consist of thin, flat or elongated material, where the maximum length exceeds three times the minimum width or thickness whichever is the lesser. c) No more than five% by volume of the gravel pack shall be acid soluble gravel. d) The gravel pack material shall fill the annulus from below the screen to above the top of the screen at all times during bore development, testing and use.
2.6 Headworks	<ul style="list-style-type: none"> a) All materials used in the bore headworks shall be of appropriate composition, corrosion resistance, and strength for the site, installation conditions, and the use of the bore. b) All joints, valves, sockets, bungs, taps and gauges used in the headworks shall be able to withstand the pressure and temperature of the bore under all conditions. c) Bore headworks shall be constructed and maintained to prevent: the leakage of groundwater, any movement of the casing, and any material or surface water entering the bore or annulus.
Section 3 Bore-Specific Requirements	
<ul style="list-style-type: none"> a) All bores shall have a concrete pad or grout seal placed around the bore head to prevent the entry of surface water or contaminants between the bore casing and surrounding ground and to control subsurface pressures. b) The bore shall be protected from interference by stock or tampering. c) When a bore is not in use, it shall be capped to prevent the entry of contaminants down the bore or artesian water flowing from the bore. d) Bores that present with perennial flowing artesian conditions shall: <ul style="list-style-type: none"> (i) Be fitted with headworks that control artesian pressures to avoid the uncontrolled discharge of water and; (ii) Have provision to allow pressure readings to be taken. 	
Section 4 Hole, Bore, Well and Infiltration Gallery Decommissioning	
<ul style="list-style-type: none"> a) The hole, bore or well shall be backfilled and sealed at the surface to confine the gallery system and prevent contaminants from surface sources leaking or leaching to groundwater. b) The water infiltration gallery and excavation shall be backfilled with inert material and sealed at the surface sufficiently to prevent contamination of groundwater or an aquifer. c) Backfill materials used shall be inert and consist of clean sand, coarse stone, clay or drill cuttings. The materials used shall not contain contaminants that may degrade groundwater or aquifer water quality. d) Backfill materials shall be placed from the bottom upward, by methods that will avoid segregation or dilution of material and the contamination of groundwater or an aquifer. 	

Definition of Terms

Terms in italic text are defined by the Act. The Act definitions are included in this regional plan for information only, and are correct at the date of public notification of this regional plan.

Abstraction – the act of taking water from a water body.

Abutment – a construction that anchors and supports the end of a bridge.

Access track – a road that crosses a waterway with a contributing catchment of less than 100 hectares and accesses a property that does not have dwellings.

Activity site – A separate area of land on which the activity is undertaken. The activity site may be either a single continuous area or comprise several adjoining blocks, sections, paddocks or compartments that together make up a single continuous area.

AEP, Annual Exceedance Probability – a statistical measurement of the annual changes of a flow of a specified size being equal or exceeded.

Agrichemicals – any substance, whether organic or inorganic, manufactured or naturally occurring, modified or in its original state, that is used for any agricultural, pastoral, horticultural or related activity, to eradicate, modify or control undesirable flora and fauna. For the purposes of this regional plan, it includes agricultural compounds and excludes fertiliser.

Artificial water course – A watercourse which meets the following criteria:

- (a) Is not a natural or modified watercourse, and
- (b) Is a completely human-made channel along which water would not naturally flow.

Includes irrigation canals, water supply race, canals for the supply of water for electricity power generation, farm drains and other drains (e.g. roadside drains). Excludes Land Drainage Canals.

Aquifer – A body of permeable rock, for example, unconsolidated gravel or sand stratum, that is capable of storing significant quantities of water, is underlain by impermeable material, and through which groundwater moves. An unconfined aquifer is one in which the water table defines the upper water limited. A confined aquifer is sealed above and below by impermeable material. A perched aquifer is an unconfined groundwater body supported by a small impermeable or slowly permeable unit (Allaby and Allaby, 199052).

Aquifer test – the abstraction of groundwater from a bore or well for the purposes of assessing hydraulic properties of an aquifer or groundwater resource.

Backflow prevention – the prevention of backflow (a reversal of the normal direction of flow in a pipe) of unwanted and undesirable flow of non-potable water or other toxic substances.

Beach – in relation to any river, stream or lake, refers to the zone of unconsolidated material that extends landward from the waterline to where there is a marked change in material or physiographic form, or to the line of permanent vegetation.

Bed of a lake or river – means -

- (a) *In relation to any river—*
 - (i) *For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks:*
 - (ii) *In all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks; and*

⁵² Allaby, M., and A. Allaby (editors), 1990. The Concise Oxford Dictionary of Earth Sciences. Oxford University Press, Great Britain.

- (b) *In relation to any lake, except a lake controlled by artificial means,—*
 - (i) *For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the lake cover at its annual highest level without exceeding its margin;*
 - (ii) *In all other cases, the space of land which the waters of the lake cover at its highest level without exceeding its margin; and*
- (c) *In relation to any lake controlled by artificial means, the space of land which the waters of the lake cover at its maximum permitted operating level; and*
- (d) *In relation to the sea, the submarine areas covered by the internal waters and the territorial sea.*

Berm – the land area between the bed of a river and the crest of a stopbank. Refer to Figure DT 1 – River with Stopbanks.

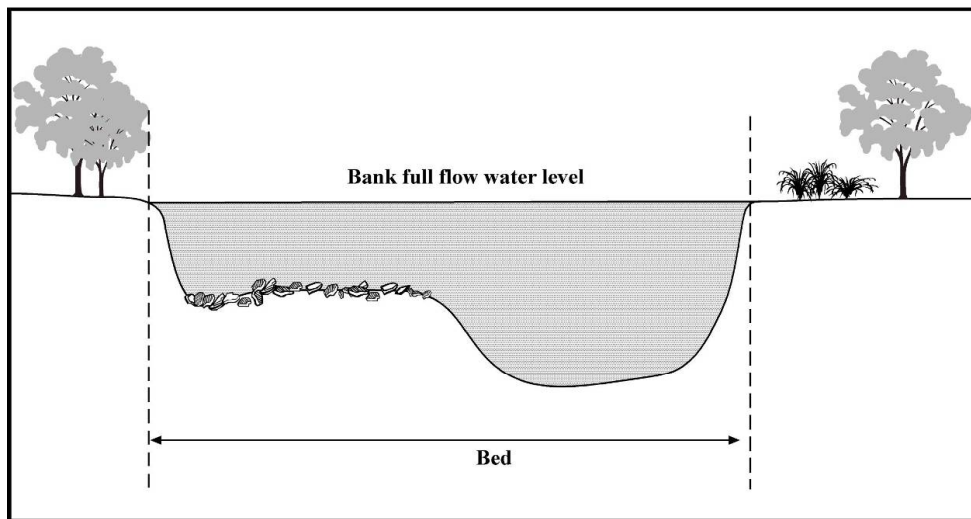
Best Practicable Option – *In relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to -*

- (a) *The nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and*
- (b) *The financial implications, and the effects on the environment, of that option when compared with other options; and*
- (c) *The current state of technical knowledge and the likelihood that the option can be successfully applied;*

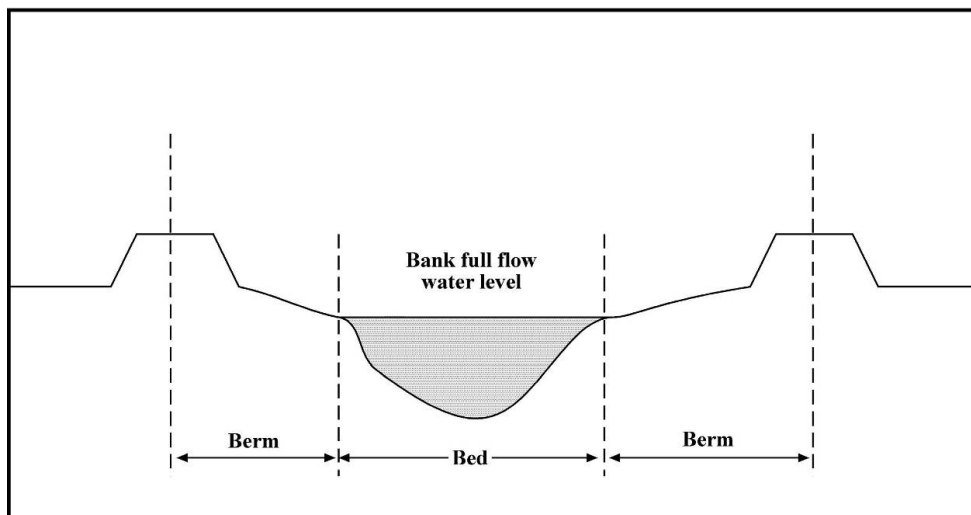
Biological Diversity – means the variability among living organisms, and the ecological complexes of which they are a part, including diversity within species, between species, and of ecosystems.

Black Disc Range – the range in water at which the image of a black disc, viewed horizontally, is judged to be extinguished. Also refer to secchi disc depth.

A River or Stream



B River with Stopbanks



Note: These diagrams are indicative only, and are intended to provide general guidance.

Figure DT 1 Bed of a River

BOD – Biochemical Oxygen Demand. Sometimes expressed as BOD5, meaning the total oxygen demand of a sample measured over five consecutive days.

Bore – any structure or hole in the ground, which is drilled or constructed for the purpose of accessing, taking or using groundwater, or which results in groundwater being taken or used. For the purposes of this regional plan, a bore and a well have the same definition.

Bore pump test – the abstraction of groundwater from a bore or well for the purposes of assessing bore water flow capacity or yield.

Buffer Zone – an area established around an activity to separate the environment beyond from the adverse effects of that activity.

By-product – a contaminant that emanates as a result of natural process from another contaminant.

Catchment – the area from which a surface watercourse or a groundwater system derives its water. Catchments are separated by divides. A surface catchment area may overlie an aquifer system, but may be unconnected with the aquifer rock itself if there are intervening impermeable aquicludes.

Channel – the portion of a river down which water flows during times of normal to low flows.

Cleaner Production – means:

- (a) using energy and resources efficiently,
- (b) avoiding or reducing the amount of waste produced,
- (c) producing environmentally sound products and services,
- (d) achieving less waste, fewer costs and higher profits.

The goal is to reduce the adverse impact of production and service activities on the environment.

Cleanfill – natural materials such as clay, soil, rock and such other materials as concrete, brick or demolition products that are free of:

- (a) combustible or putrescible components (including green waste) apart from up to 10% by volume untreated timber in each load;
- (b) hazardous substances or materials (such as municipal waste) likely to create leachate by means of biological or chemical breakdown;
- (c) any products or materials derived from hazardous waste treatment, stabilisation or disposal processes.

Clearance of Vegetation by Burning – The disturbance or removal of vegetation or slash, either in situ, heaps or windrows, by using fire.

Coast Care – A community action programme co-ordinated by the Regional Council in partnership with Tauranga City Council, Western Bay of Plenty District Council, Whakatane District Council, Ōpōtiki District Council, and the Department of Conservation for the purpose of restoring and protecting dune systems in the Bay of Plenty.

Coastal Margin – for the purposes of rules in the Land Management section of this regional plan, the Coastal Margin is the land on the edge of an estuary, harbour, or the open rocky coast, excluding Sand Dune Country, as measured horizontally from the Coastal Marine Area to 40 metres landward of the Coastal Marine Area.

Coastal Marine Area – Means the foreshore, seabed, and coastal water, and the air space above the water -

- (a) *Of which the seaward boundary is the outer limits of the territorial sea:*
- (b) *Of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of—*
 - (i) *One kilometre upstream from the mouth of the river; or*
 - (ii) *The point upstream that is calculated by multiplying the width of the river mouth by 5:*

In the Bay of Plenty region the river mouths have been defined by agreement between the Minister of Conservation, the Regional Council, and the appropriate city and district councils, in accordance with section 2(1) of the Act. Grid references of the river mouths have been scheduled in the Regional Coastal Environment Plan. In addition, the Regional Council has detailed maps and descriptions of the agreed river mouths and consequent landward edge of the Coastal Marine Area within the rivers of the region. These maps and descriptions can be viewed at the Whakatane office of Environment Bay of Plenty.

Coastal Water – Means seawater within the outer limits of the territorial sea and includes –

- (a) *Seawater with a substantial fresh water component; and*
- (b) *Seawater in estuaries, fiords, inlets, harbours, or embayments*

Code of Practice – operational procedures and practices agreed to by industry groups and designed to achieve defined goals and be consistent with the principles of sustainable management of natural and physical resources as required by the Resource Management Act and other relevant legislation.

Contaminant – *Includes any substance (including gases, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat -*

- (a) *When discharged into water, changes or is likely to change the physical, chemical, or biological condition of water; or*
- (b) *When discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged:*

Contaminated Land – A location at which hazardous substances in soil, groundwater or surface water occur at concentrations above the background levels of those substances in the surrounding environment and where assessment indicates that those substances pose, or are likely to pose, an immediate or long-term hazard to human health or the environment.

Contaminated Land Remediation – Active or passive management of contaminated land to reduce its adverse effects on the environment or render it suitable for use.

Contractor – means an independent person retained by the Regional Council to provide professional or other advice.

Controlled Stock Crossing – The discrete site used to move mobs of stock over the bed of a surface water body where the activity is controlled by fences, or by a person.

Cultivation – the mechanised disturbance of land and soil for the purpose of growing crops, weed control or pasture renewal. This excludes normal gardening practices, trimming and mowing, direct seed drilling (including the drilling of seed for pasture renovation), no-tillage practices, routine turf weed control, and undersowing of existing areas. Forestry line ranking and windrowing are not forms of cultivation.

Culvert – a pipe in the bed of a stream, river or modified watercourse that conveys water beneath a stream crossing which supports a path, road or track. Excludes the piping of a stream for the purpose of stormwater management, or the development or reclamation of land.

Decommission – to permanently abandon a hole, bore, well or infiltration gallery or take a hole, bore, well or infiltration gallery out of service.

Deposition of substances – the placement or dumping of cleanfill, rubble, wood, debris, tree trimmings or any inert material into or onto the bed of a surface water body or onto land.

Diffuse Discharge – discharge of contaminants that does not occur at a specific discharge point.

Direct control – means that the person is responsible and accountable for the activity.

Discharge structure – a structure in, on, under or over the bed of a stream, river, lake or modified watercourse for the purpose of discharging a contaminant or water into the water body.

Diversion – The diversion of water within the same stream or river. The transfer of water into another catchment of a watercourse is deemed to be a take and discharge of water.

Dominant Slope – The slope range that represents at least 75% of the activity site, as measured to an accuracy no less than that achieved by a slope measuring device, including hand held clinometer or abney level. Slope is defined as the steepness of land measured in degrees or as a gradient.

Downhole Heat-Exchange System – a device installed down a geothermal bore to remove heat from a geothermal field without removing geothermal fluid, using fresh water circulated through a heat exchanger at depth.

Drain – an artificial watercourse used for land drainage purposes, excluding Land Drainage Canals. Also refer to the definitions of Farm drain and Roadside drain.

Drainage – the activity of lowering the water table. This generally involves the diversion of water from the site.

Drawdown – is the difference between the static water level and the pumped water level.

Drift deck – a structure in the bed of stream or river, where the structure is frequently overtopped by water, and comprises a series of inverted “u” shaped concrete components that sit on or in the bed, which bear a concrete slab that provides a running surface for access across a stream or river.

Earthworks – Any activity that exposes, disturbs, places or deposits land and soil. Such activities include, but are not limited to, tracking, roading, cleanfill sites, cut and fill operations, quarrying, mining, and recontouring. Excludes area-wide treatment (pavement overlay and strengthening) and road resealing (pavement rehabilitation) of existing roading, normal domestic gardening practices, maintenance of roads and tracks (including railway tracks), the formation of walking tracks, cultivation (except where re-contouring is involved), maintenance of linear network utility support structures, and maintenance (including minor realignment) of existing foot tracks within public reserves and the conservation estate.

Ecosystem – a dynamic system made up of a group of living organisms (plants, animals and micro-organisms) and its physical environment, and the relationship between them. A pond, a lake, a forest, or an ocean may be an ecosystem. An ecosystem includes such factors as food supply, weather and natural enemies.

Eco-sourced – plants that have genetic provenance in the location.

Effect – *The term “effect” ... includes -*

- (a) *Any positive or adverse effect; and*
- (b) *Any temporary or permanent effect; and*
- (c) *Any past, present, or future effect; and*
- (d) *Any cumulative effect which arises over time or in combination with other effects -*
- (e) *regardless of the scale, intensity, duration, or frequency of the effect, and also includes¹⁰ -*
- (f) *Any potential effect of high probability; and*
- (g) *Any potential effect of low probability which has a high potential impact.*

Effluent – liquid discharged as waste.

EMS – means Environmental Management System.

Environment – *includes -*

- (a) *Ecosystems and their constituent parts, including people and communities; and*
- (b) *All natural and physical resources; and*
- (c) *Amenity values; and*
- (d) *The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters:*

Environmental Programme or Property Plan – Property management plans encompassing the use of production methods which protect soil and environmental values while achieving sustainable development and management. In the context of this regional plan, an Environmental Programme or Property Plan is one prepared by Land Resource staff of the Regional Council in partnership with landowners. Landowners are advised to contact the Land Resource section for further information. An Environmental Programme can be applied to any privately owned land, regardless of land use.

Ephemeral flowpath – An ephemeral flowpath is where any one of the following criteria are met:

- (a) The flow path is an entrenched dry gully greater than 1 metre deep.
- (b) There is clear evidence of a channel within the valley system where overland flow occurs from time to time.
- (c) There is clear evidence of erosion (such as gully or headward gully erosion) associated with short term water flow from time to time within the valley system.

An ephemeral flowpath excludes the following:

- (a) A valley that does not show any evidence of overland flow channels, or erosion as a result of overland flow.

Refer to the following photographs to assist in the interpretation of Ephemeral Flowpath.



Example 1

The flow path is an entrenched dry gully greater than 1 metre deep. This site would qualify as an ephemeral flowpath.



Example 2

There is clear evidence of a channel within the valley system where overland flow occurs from time to time.

This site would qualify as an ephemeral flowpath.



Example 3

There is clear evidence of erosion (such as gullying or headward gully erosion) associated with short term water flow from time to time within the valley system.

This site would qualify as an ephemeral watercourse.



Example 4

The presence of the actively eroding gully head associated with stormwater flow indicates that this valley would be classified as an ephemeral watercourse. Without the presence of the eroding gully system, the valley would not be considered an ephemeral flowpath.



Example 5

The valley does not show any evidence of overland flow channels, or erosion as a result of overland flow.



This site would not qualify as an ephemeral flowpath.

Erosion – the processes of the wearing away of the land's surface by natural processes and human activities, and the transporting of the resulting sediment.

Erosion Hazard Zone – Land that has very severe to extreme erosion hazards. For the purposes of the rules in this regional plan, the Erosion Hazard Zone is:

- (a) Any Sand Dune Country; excluding sand dune country within urban areas or already developed subdivisions that are on land between 50-150 metres from the Coastal Marine Area.
- (b) Any land in the upper Rangitaiki River catchment above the confluence of the Otangimoana Stream and Rangitaiki River, including the Otamatea River catchment, in the following areas:
 - (i) On the margins of erosion susceptible permanent streams and rivers; or
 - (ii) In the beds and margins of ephemeral flowpaths; or
 - (iii) On steep terrace edges;

as shown in Environment Bay of Plenty Plan Series M1009¹.

¹ **Note:** The photomap plan series M1009 prepared by the Regional Council at a scale of 1:25,000 shows the location of the beds and margins of the relevant land areas and ephemeral flowpaths that are covered by definition points (b) (i) to (iii). These are the definitive maps used to assess compliance. Copies of these maps are available from or may be viewed at any Regional Council office.

Estuary – a tidal area associated with a river or fresh water seeps where there is a mixing of saline and fresh water.

Exotic – in relation to plant species means plants that are not native to New Zealand. This includes plants that have been introduced by accident or imported for particular use.

Farm Drain – an artificial watercourse on production land that is used for land drainage purposes.

Farm Quality Programme – Any of the following:

- (a) A Regional Council Environmental Programme or Property Plan.
- (b) A Quality Assurance Programme ('QAP') from a relevant agricultural industry group, where the QAP is listed in Schedule 8.
- (c) A specific Environmental Management Plan for an area that is listed in Schedule 8.

Fertiliser – any substance which is described as or held out to be for, or suitable for sustaining or increasing the growth, productivity or quality of plants or animals through the application of the following essential nutrients to plants or soils: nitrogen, phosphorus, potassium, sulphur, magnesium, calcium, chloride, sodium, as major nutrients or manganese, iron, zinc, copper, boron, cobalt, molybdenum, selenium, as minor nutrients or additives, and any other product which is considered to meet identified soil or plant nutrient deficiencies and is applied with this as the principle objective. Products discharged or applied as part of a waste treatment process require resource consents and are not covered by this code. This definition is from The Code of Practices For Fertiliser Use 1998⁵³.

Field Pressure – averaged dynamic pressure of a geothermal field within its geothermal reservoir.

Floodplain – the surface of relatively smooth land built of alluvium, adjacent to a river channel, and covered with water during flooding of the river.

Floodway – Refer to Schedule 6.

Ford – a structure on the bed of a river (that is permanently or frequently overtopped by water) for the purpose of enabling people or vehicles to cross that river bed.

⁵³ New Zealand Fertiliser Manufacture's Research Associations Inc, 1998. Code of Practice for Fertiliser Use.

Fresh Water – Means all water except coastal water and geothermal water.

FSC – means Forest Stewardship Certification, an international forest certification system.

Geothermal Ecosystem/Ecology – a dynamic life-supporting system made up of a group of living organisms (including plants and animals) that has adapted to, and is reliant on, geothermal resources.

Geothermal energy – Means energy derived or derivable from and produced within the earth by natural heat phenomena; and includes all geothermal water.

Geothermal Field – A body of natural geothermal heat, energy or water as defined by the extensive scientific investigation which have been conducted, in particular, detailed resistivity surveys, and by the filling and testing of deep drillholes. The energy content and productive potential of the locality have been reasonably assessed.

Geothermal Surface Feature – includes structures formed by deposition from, or the release of, geothermal water (including steam and energy) from geothermal areas and any resulting earthforms, any geothermally activated geysers, fumaroles, sinter structures, tomos, mud pools, hot and cold water pools, springs, steam and gas vents, and also includes inactive structures formed by extinct or intermittent geothermal activity.

Geothermal Water – Means water heated within the earth by natural phenomena to a temperature of 30 degrees Celsius or more; and includes all steam, water, and water vapour, and every mixture of all or any of them that has been heated by natural phenomena.

Any geothermally sourced water which is initially greater than 30° Celsius but falls below 30° Celsius as a result of an activity will continue to be considered as geothermal water under this regional plan.

Grade Aa biosolids – A sewage or sewage sludge derived from a sewage treatment plant that has been treated and/or stabilised to the extent that it is able to be safely and beneficially applied to land and does not include products derived from industrial wastewater treatment plants. The material must:

- (a) Meet the process and product requirement for stabilisation Grade “A” and contaminant Grade “a” as specified in the Guidelines for the Safe Application of Biosolids to Land in New Zealand (2003) (note: the microbiological and chemical standards are to be met at the time the biosolids product is prepared for sale) ; and
- (b) Carry the registered Biosolids Quality Mark BQM accreditation.
- (c) Have labelling supplied with the product at the point of sale or give away, such labelling specifying:
 - (i) Trade name (if applicable).
 - (ii) Name and address of the producer/manufacturer.
 - (iii) Information relating to the product’s origin (i.e. that it is biosolids-based) and precautionary handling instructions.
 - (iv) A health warning.
 - (v) Certification that the product has been manufactured in accordance with one of the ‘accepted process methodologies’ for stabilisation Grade ‘A’ biosolids recognised in the Guidelines for the Safe Application of Biosolids to Land in New Zealand (2003).
 - (vi) Batch number (if applicable).
 - (vii) Order number (if applicable).
 - (viii) Delivery date (if applicable).
 - (ix) The process the biosolids have been subjected to (e.g. composting, heat drying, pH adjustment).
 - (x) Nutrient (n) content and modifying pH value (if the latter is applicable).
 - (xi) Placement of the material in relation to water bodies.

- (xii) Requirement to incorporate into soil if applied to agricultural land and to avoid application to grazed land.
- (xiii) Recommended application rates.

Green waste – waste organic material, including:

- (a) vegetative material, but not tree trunks or limbs larger than 100 mm diameter
- (b) vegetable peelings or trimmings and other organic kitchen wastes
- (c) soil attached to plant roots

Green waste does not include hazardous substances, treated timber, or animal products including manure, feathers, carcasses and the like (other than as an occasional or incidental input).

Groundwater – All the water contained in the void space within rocks. The term is generally taken to include vadose water (water travelling between the surface and the water table). Most groundwater derives from surface sources (meteoric water), the remainder is either introduced by magmatic processes (juvenile water) or is connate water⁵⁴.

Habitat – the place or type of site where an organism or population normally occurs.

Hazardous Substances – unless expressly provided otherwise by regulations, any substance:

- (a) with one or more of the following intrinsic properties:
 - (i) Explosiveness.
 - (ii) Flammability.
 - (iii) A capacity to oxidise.
 - (iv) Corrosiveness.
 - (v) Toxicity (including chronic toxicity).
 - (vi) Ecotoxicity with or without bioaccumulation.
 - (vii) Infectious and pathological wastes.
 - (viii) Radioactivity.

Or

- (b) which on contact with air or water (other than air or water where the temperature or pressure has been artificially increased or decreased) generates a substance with any one or more of the properties specified in paragraph (a) of this definition.

Headworks – all materials used at the ground surface to complete the bore. Includes pipework, valves, gauges and access points, concrete pads and/or cellars.

Heritage values – Includes natural character, outstanding natural features and landscapes, indigenous vegetation and habitat of indigenous fauna, Maori cultural values, heritage values and places, and ecosystem, landscape and amenity values.

High Risk Facility – Any of the facilities referenced in Schedule 4 of this regional plan.

Hole - any excavation of the ground created by drilling.

Hydrology – the scientific study of the distribution and properties of water within the atmosphere and of the earth's surface.

⁵⁴ Allaby, M., and A. Allaby (editors), 1990. The Concise Oxford Dictionary of Earth Sciences. Oxford University Press, Great Britain.

Indigenous – in relation to species means plants and animals found naturally in New Zealand.

Industrial or trade premises – Means -

- (a) Any premises used for any industrial or trade purposes; or
- (b) Any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials; or
- (c) Any other premises from which a contaminant is discharged in connection with any industrial or trade process -

but does not include any production land.

Industrial or trade process – Includes every part of a process from the receipt of raw material to the dispatch or use in another process or disposal of any product or waste material, and any intervening storage of the raw material, partly processed matter, or product.

Infrastructure – networks, links and parts of facility systems, as in transport infrastructure (roads, rail, parking, etc.) or water system infrastructure (the pipes, pumps and treatment works, etc.).

Instream Minimum Flow Requirement – the flow of water in a river or stream necessary to sustain aquatic life, water quality, recreational use, outstanding natural features or Maori cultural values.

Intermittent Watercourse – A watercourse that:

- (a) Flows for most of the year or is only dry for short periods of the year, and during such dry periods has stable pools or 'wet patches'; and
- (b) Has a defined water channel and banks; and
- (c) Connects with a permanently flowing surface water body; and
- (d) Provides habitat for aquatic flora and/or fauna species.

Intrinsic Values – *In relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including -*

- (a) *Their biological and genetic diversity; and*
- (b) *The essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience.*

ISO 14001 – means the international standard for an Environmental Management System.

Iwi – tribe or grouping of Maori.

Iwi Authority – *Means the authority which represents an iwi and which is recognised by that iwi as having authority to do so.*

Kaitiakitanga – *Means the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship.*

Lake – *Means a body of fresh water which is entirely or nearly surrounded by land.*

Land – *Includes land covered by water and the air space above land.*

Land Cover – the type of vegetation or other material that covers an area of land. Examples include indigenous forest, urban, pasture, wetlands, exotic forest, etc. Relates to land use.

Land Drainage Canal – a modified watercourse that is part of a land drainage scheme.

For the purposes of this regional plan the term 'Land Drainage Canal' is limited to the following:

- (a) Rangitaiki Plains - Awaiti Canal, Omeheu Canal, Awakaponga Canal and Drain, Waikamihī Stream, Mangaone Stream, Western Drain, Ngakauaroa Drain/Stream, Te Rahu Canal, Otarere Drain/Stream, Orini Canal, Reid's Central Canal:
- (b) Kaituna - Kopuroa/Kopuaroa Canal, Ohineangaanga Canal, Raparapahoe Canal, Waiari Stream:
- (c) Little Waihi - Kaikokopu Canal, Pongakawa Canal, Pukehina Canal, Wharere Canal:
- (d) Waioeka/Otara - Kukomoa Creek, Te Karaka Creek:
- (e) Waihi Beach - 2 Mile Creek, 3 Mile Creek.
- (f) Waiotahe - Waiotahe Main Drain.
- (g) Tauranga City – Kulim Ave - Bureta Rd/Golf course, Vale St-Bureta Rd; Rosewood Flow Channel; Sherwood St; Castlewood Drive; Kingswood Rd; Humber Cres Amenity Reserve, Road Reserve, Watling St; Bruce R/SH2, Mangatawa-SH2, Railway, Farmlands; Pattersons; Vale St; Maxwells Road; Solomon St; Carmichael Reserve; Russell Pl; Montgomery St; Birch Ave; Seventeenth Ave – Golf Range to Clarke St; historic Village/17th Ave, Rear historic to Kopurererua; Brook St; Maleme St – East to Oropi Rd and West; Harrisfield Dr; Owen Park; Tara Rd North and South; Harrisons Cut; Beachwaters; Southern Outlet/Te Maunga Farmland and Golf Course; Christie; Airport; Maru St / AgriBalance; Te Marie St; Triton Ave; Pacific Cove periphery; Pacific Cove to Domain Road; Taiaho Pl; Kaitemako Stream between the Welcome Bay Road bridge and Lochinvar Place; Wairakei Stream.

Any other canal or drain that is within a land drainage scheme is included in the term 'Drain'.

Land Management Practice – the way in which a land use activity is carried out.

Land Management Suite – an area of similar soils with similar erosion risk which have the same potential land management issues.

Land Use – the type of activity that an area of land is used for, such as dairying, forestry, urban, or horticulture.

Land and Soil Disturbance – the excavation, drilling, tunnelling, disturbance, placement, exposure, or deposition of land or soil by an activity. Also refer to the definitions of Earthworks, Vegetation Clearance, and Cultivation.

Leachate – A liquid effluent that is generated by the breakdown of organic and inorganic materials, or by the percolation of rainwater through wastes. It is generally a mix of water with any liquids produced from decaying materials, liquid wastes, dissolved or suspended materials, and other contaminants resulting from the type of waste at the site.

MALF (Mean Annual Low Flow) – Mean annual low flow is the arithmetic mean of the 7 day low flows calculated for each year of the period of record analysed.

Maintenance – regular activities which retain a structure, asset or a location to its original authorised standard and purpose, and where the character, intensity and scale of the structure, asset or site remains the same or similar. Excludes alteration, extension or reconstruction of structures or assets, or change in location.

Major road – a road that is either a state highway or carries more than 750 vehicles per day.

Margin of a stream, river or lake – the ecological or physical boundary of a stream, river or lake. In a lake, up to the 2.33 metre AEP level.

Mauri – Refer to the Kaitiakitanga section for explanation.

Mean High Water Springs (MHWS) – the average line of spring high tides. Spring tides occur at or near each new and full moon.

Modified watercourse – a watercourse that meets any of following criteria:

- (a) Is a river or stream that has been channelled or diverted.
- (b) Is a Land Drainage Canal (as defined in this regional plan) constructed through a wetland or swamp, that generally follows the path of a historic natural watercourse or reasonably defined natural drainage channel.
- (c) Is a watercourse that has a natural headwater of either a channel or spring, and generally follows the path of a historic natural watercourse or reasonably defined natural drainage channel.
- (d) Is the oxbow of a diverted river.

Moturiki Datum – is a survey datum on Moturiki Island, Mt Maunganui. This datum is equal to mean sea level.

Mouth – *For the purpose of defining the landward boundary of the Coastal Marine Area, means the mouth of the river either—*

- (a) *As agreed and set between the Minister of Conservation, the regional council, and the appropriate territorial authority in the period between consultation on, and notification of, the proposed regional coastal plan; or*
- (b) *As declared by the [Environment Court] under section 310 upon application made by the Minister of Conservation, the regional council, or the territorial authority prior to the plan becoming operative, -*
- (c) *and once so agreed and set or declared shall not be changed in accordance with the First Schedule or otherwise varied, altered, questioned, or reviewed in any way until the next review of the regional coastal plan, unless the Minister of Conservation, the regional council, and the appropriate territorial authority agree.*

Natural and Physical Resources – *Includes land, water, air, soil, minerals, and energy, all forms of plants and animals (whether native to New Zealand or introduced), and all structures.*

Natural Character – the qualities of the environment that give recognisable character to an area. There are varying degrees of natural character. Natural character relates to:

- (a) Natural systems – landscapes, physical processes and ecological systems.
- (b) Landform.
- (c) Landcover.
- (d) Waterscapes – seascapes, harbours, estuaries, wetlands, lakes and rivers.
- (e) Natural habitats of fauna.

Advisory Note – Also refer to the Bay of Plenty Regional Policy Statement for further explanation.

Natural Hazard – *Means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.*

Natural Perturbation – a small change in a water body caused by natural processes, including heating by the sun.

NERMN – Regional Council's Natural Environment Regional Monitoring Network.

Nga Tangata Pukenga – Tangata whenua persons acknowledged by their iwi and hapu as having the appropriate knowledge, expertise and genealogical linkages to allow them to assist kaitiaki to determine and express the groups' relationships and their culture and traditions with their ancestral lands, waters, waahi tapu, special sites and other taonga.

Non-consumptive use of water – For the purposes of this regional plan, the term ‘non-consumptive use of water’ refers to activities where:

- (a) Water is used (including damming and diversion) within the bed of the stream, river or lake; or within an aquifer.

And

- (b) Where water is abstracted from the water body, it is returned to the water body in the same or similar quantity and quality as it is abstracted, and at the same general location.

Occupier – Means -

- (a) *The inhabitant occupier of any property; and*
- (b) *In relation to any rateable property within the meaning of the Rating Powers Act 1988, includes any occupier of the property within the meaning of that Act; and*
- (c) *For the purposes of section 16, in relation to any land (including any premises and any Coastal Marine Area), includes any agent, employee, or other person acting or apparently acting in the general management or control of the land, or any plant or machinery on that land.*

Orphan Contaminated Land – Contaminated land for which either no party or parties can be fixed with legal liability, or the liable party or parties are unable to fund the measures necessary to remedy or mitigate adverse effects associated with the site.

Owner –

- (a) *In relation to any land, means the person who is for the time being entitled to the rack rent of the land or who would be so entitled if the land were let to a tenant at a rack rent; and includes -*
 - (i) *The owner of the fee simple of the land; and*
 - (ii) *Any person who has agreed in writing, whether conditionally or unconditionally, to purchase the land or any leasehold estate or interest in the land, or to take a lease of the land, while the agreement remains in force; and*
- (b) *In relation to any ship or offshore installation or oil transfer site, has the same meaning as in section 222(2) of the Maritime Transport Act 1994.*

Permitted Activity – Means an activity described in section 77B(1) of the Act.

Section 77B(1) states: *If an activity is described in this Act, regulations or a plan or proposed plans as a permitted activity, a resource consent is not required for the activity if it complies with the standards, terms, or conditions, if any, specified in the plan or proposed plan.*

Persistent toxic contaminants – a contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) of long duration that is capable of causing ill-health, injury or damage to living organisms. Includes eco-toxic contaminants.

Plantation Forest or Plantation Forestry means a forest deliberately established for commercial purposes, being-

- (a) at least 1ha of continuous forest cover of forest species that has been planted and has or will be harvested or replanted; and
- (b) includes all associated forestry infrastructure; but
- (c) does not include-
 - (i) a shelter belt of forest species, where the tree crown cover has, or is likely to have, an average width of less than 30 m; or

- (ii) forest species in urban areas; or
- (iii) nurseries and seed orchards; or
- (iv) trees grown for fruit nuts; or
- (v) long-term ecological restoration plantation of forest species; or
- (vi) willows and poplars space planted for soil conservation purposes

Plant Pest – any plant, tree, shrub, herb, flower, nursery stock, culture, vegetable or other vegetation specified in the Pest Management Strategy for the Bay of Plenty 2003-2008.

Point Source Discharges – a discharge of contaminants from a specific and identifiable outlet onto or into land, air, or water.

Potentially contaminated Land – any location for which there are reasonable grounds to suspect that contamination by hazardous substances may have occurred, based on information about past land uses at that location, or on evidence from or near the land itself.

Precautionary approach – refer to Section 2.5 of the Bay of Plenty Regional Policy Statement.

Production land –

- (a) *Means any land and auxiliary buildings used for the production (but not processing) of primary products (including agricultural, pastoral, horticultural, and forestry products):*
- (b) *Does not include land or auxiliary buildings used or associated with prospecting, exploration, or mining for minerals, ... -*

and production" has a corresponding meaning.

Property – the land described in a particular certificate of title, or a group of contiguous certificates of title owned or leased by the same owner or lease holder, or land which is designated as a road or reserve, or is Maori land.

Property Plan – refer to Environmental Programme.

Q_{57d} – the mean 7 day low flow that has a 20% (one in five) probability of occurring in any one year.

Raft – *Means any moored floating platform which is not self-propelled; and includes platforms that provide buoyancy support for the surfaces on which fish or marine vegetation are cultivated or for any cage or other device used to contain or restrain fish or marine vegetation; but does not include booms situated on lakes subject to artificial control which have been installed to ensure the safe operation of electricity generating facilities.*

Reinjection – The return of geothermal water (including condensates and gases) into the geothermal field reservoir from which it was taken.

Remote road – a public or private road accessing a property that does not have dwellings and which crosses a waterway with a contributing catchment of less than 50 km².

Reserves Management Plan – a strategic management document for a reserve area administered by either a district council, city council, Department of Conservation, Fish and Game NZ, or the Regional Council and which has been formally adopted by the relevant administering agency.

Riparian Management Zone – the area of land that covers a specified horizontal distance from any wetland, or from the bed of any permanently or intermittently flowing river, stream or a lake. Areas of land adjacent to ephemeral flowpaths are excluded from the Riparian Management Zone. Land on the margins of estuaries, harbours and the open rocky coast is covered by the definition of "Coastal Margin". Land on the margins of coastal dune systems is covered by the definition of "Sand Dune Country". The horizontal width of a Riparian Management Zone, as measured from the edge of the surface water body to the width stated, is as follows:

- 1 For land adjacent to Rotorua Lakes:

Land Slope	Land Disturbance Activity			
	Vegetation Clearance	Earthworks	Clearance of Vegetation by Burning	Cultivation
0 to 7°	10 metres	20 metres	20 metres	5 metres
>7 to 15°				10 metres
>15 to 25°	20 metres	25 metres	25 metres	10 metres
>25 to 35°	25 metres	40 metres	40 metres	40 metres
>35°	40 metres	40 metres	40 metres	40 metres

- 2 For land adjacent to any other lake not specified in 1, or wetland or the bed of any river or stream, excluding land adjacent to streams and rivers with Water Supply water quality classification in relation to earthworks and vegetation clearance:

Land Slope	Land Disturbance Activity			
	Vegetation Clearance	Earthworks	Clearance of Vegetation by Burning	Cultivation
0 to 7°	5 metres	5 metres	5 metres	2 metres
>7 to 15°	5 metres	10 metres	10 metres	5 metres
>15 to 25°	20 metres	20 metres	20 metres	10 metres
>25 to 35°	25 metres	25 metres	25 metres	25 metres
>35°	40 metres	40 metres	40 metres	40 metres

- 3 For land adjacent to streams and rivers with Water Supply water quality classification in relation to earthworks and vegetation clearance:

Land Slope	Land Disturbance Activity	
	Vegetation Clearance	Earthworks
0 to 7°	10 metres	20 metres
> 7 to 15°		
> 15 to 25°	20 metres	25 metres
> 25 to 35°	25 metres	40 metres
> 35°	40 metres	40 metres

Riparian area or riparian margin – A strip of land of varying width adjacent to the bed of a stream, river, lake or wetland, which contributes or may contribute to the maintenance and enhancement of the natural functioning, quality and character of the stream, river, lake or wetland; and the natural character of the margins of streams, rivers, lakes and wetlands. For the purposes of this regional plan, the definition does not include land adjacent to artificial watercourses and ephemeral flowpaths.

River – Means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal).

Note: 'River' includes intermittent watercourses, but excludes ephemeral flowpaths. Refer to the definitions of Intermittent Watercourse and Ephemeral Flowpath.

Roading Authority – any authority or agency who own, operate or maintain public access roads, including but not limited to, District and City Council roading authorities, NZTA, Department of Conservation, hospitals, and large government organisations.

Roadside drain – an artificial watercourse that runs alongside a public road.

Rotorua Lakes – for the purposes of this regional plan the term refers to the collective group of Lakes Rotorua, Rotoiti, Rotoehu, Rotoma, Okataina, Okareka, Tikitapu, Rotokakahi, Tarawera, Okaro, Rotomahana, Rerewhakaaitu.

Rural road – a road that is not a major road, remote road or access track.

Sand Dune Country – coastal dune systems with sand soils, which are characterised by low amounts of organic matter and low cohesiveness. Includes areas with Land Use Capability of VIIe and VIIIe, and Land Management Suite of LMS 3 or LMS 4. For the purposes of the rules in the Land Management section of this regional plan, it is coastal land measured horizontally from the Coastal Marine Area to either:

- (i) 150 metres landward of the Coastal Marine Area; or
- (ii) the point where land changes from sand dune country to another soil type; whichever is the lesser distance.

Secchi Disc Depth – the range in water at which the image of a secchi disc, viewed horizontally, is judged to be extinguished. Also refer to Black Disc Range.

Sediment – for the purposes of this regional plan, is soil or earth particles suspended in water.

Sedimentation – the settling out of particles (sediment) that have been transported by water.

Service crossing – a structure crossing over the bed of a surface water body that conveys material, liquids, energy or communications. Includes pipes conveying water, sewage, wastewater or gas; lines conveying electricity; fibre optic cables; communications lines; signal lines; telecommunications lines; and transmission lines.

Silent Files – files that are not available to the general public due to the sensitive nature of the information they contain (e.g. information about heritage places known only to hapu/iwi).

Slope – The steepness of the land measured in degrees or as a gradient. Also refer to Dominant Slope.

Soil – the top most layer of weathered rock, ash, sand and organic matter, which usually contains air, moisture and nutrients, and can therefore support life.

Soil Conservation – *Means avoiding, remedying, or mitigating soil erosion and maintaining the physical, chemical, and biological qualities of soil.*

Stopbank – barrier or embankment constructed near or alongside a river, and designed to contain flood flows and prevent high river flows flooding onto adjacent land.

Stormwater – short-term runoff associated with rainfall events.

Stream Reach – a length of stream (or river) of uniform flow and habitat characteristics and is often bounded by inflowing tributaries.

Structure – *Means any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft.*

Surface Water body – means freshwater in a river, lake, stream, pond, or wetland, that is not located within the Coastal Marine Area.

Sustainable management – Means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while -

- (a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- (b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

Tangata Whenua – In relation to a particular area, means the iwi, or hapu, that holds mana whenua over that area.

Taonga – Treasure or property. Taonga are prized and protected as sacred possessions of the tribe. The term carries a deep spiritual meaning and taonga may be things that cannot be seen or touched. Taonga include waahi tapu, waterways, fishing grounds and mountains.

Tikanga Maori – Means Maori customary values and practices.

Tino Rangatiratanga – chiefly authority, chieftainship, full tribal authority to tribal self-management. In the context of resource management this means the right of iwi and hapu to manage and control their resources in accord with their customary preferences.

Tributary – a stream that drains into a larger stream or river, or into a lake or wetland, thereby contributing water to it.

Trophic Level Index (TLI) – a numeric system for the monitoring of lake quality adopted by the Ministry for the Environment. TLI is determined using measurements of chlorophyll (Chla mg m⁻³), Secchi depth, Total Phosphorous (TP) and Total Nitrogen (TN). The TLI value integrates measures of key nutrients and algal production over a year, giving an indication of the overall quality of the lake. The TLI number increases as water quality decreases.

Untreated sewage – sewage that has not been treated to either primary, secondary or tertiary levels.

Urban area or settlement – an area which contains an aggregation of more than 50 lots or sites of an average size of no more than 1000 m².

Vegetation Clearance – The disturbance of land and soil resulting from the disturbance of vegetation by removal, clearance, destruction, and crushing of all forms of scrub, tree, and ground cover vegetation. This excludes:

- (a) normal gardening practices,
- (b) routine maintenance of existing private and public roads, railways lines or tracks,
- (c) maintenance of public reserves and the conservation estate,
- (d) trimming and mowing,
- (e) pruning,
- (f) thinning to waste,
- (g) harvesting of plants for scientific, cultural, or traditional medicinal purposes,
- (h) the formation and maintenance of tracks constructed by hand, to a width no greater than 1.5 metres,
- (i) the harvesting of crops (excluding forestry),
- (j) the removal or disturbance of plant pest species,
- (k) weed control,
- (l) clearance around network utilities, and
- (m) cultivation.

Waahi tapu – a place sacred to Maori in the traditional, spiritual, religious, ritual or mythological sense.

Water –

- (a) *Means water in all its physical forms whether flowing or not and whether over or under the ground:*
- (b) *Includes fresh water, coastal water, and geothermal water:*
- (c) *Does not include water in any form while in any pipe, tank, or cistern.*

Water Body – Means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the Coastal Marine Area.

Water Infiltration Gallery – the excavated and constructed hole within the water table or unconfined aquifer to intercept groundwater for water supply purposes.

Water harvesting – taking surface water to be stored for future use.

Water intake structure – a structure in, on, or over the bed of a stream, river, lake or modified watercourse for the purposes of abstracting surface water for use.

Water quality – the physical, chemical and biological attributes of water that affect its ability to sustain environmental values or uses.

Water table – the level at which land becomes saturated with groundwater.

Well – refer to the definition of a bore.

Wetlands – *Includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.*

For the avoidance of doubt, the term 'wetland' applies to water bodies, and intermittently wet areas. The term does not apply to dry land that does not support a natural ecosystem of plants and animals that are adapted to wet conditions, and that occurs within an area commonly referred to in its entirety as a wetland.

For the purposes of this regional plan, 'wetland' excludes:

- (a) Wetted pasture and pasture with patches of rushes.
- (b) Oxidation ponds.
- (c) Artificial water bodies used for wastewater or stormwater treatment. This includes wetlands that have been developed primarily for effluent or stormwater treatment or disposal, but are managed to appear 'natural'.
- (d) Artificial Farm dams and detention dams.
- (e) Land drainage canals and drains.
- (f) Artificial Reservoirs for firefighting, domestic or municipal water supply.
- (g) Temporary ponded rainfall over areas that would not otherwise be considered a wetland.
- (h) Artificial water bodies that are not in the bed of a stream, river or lake; and are not degraded natural wetlands that have been modified. This includes artificial water bodies that are managed to appear 'natural'

The edge of a wetland (i.e. where a wetland becomes land) should be determined by a person with appropriate expertise.

(See Figure DT 2 and photos to assist in interpretation)

Wetland Management Agreement – a management agreement document that has been prepared by the Regional Council in conjunction with a landowner, for the enhancement of a wetland.

Wilding Willow – Self seeded willows growing in the bed of a river, stream or lake that have not been planted as part of a river scheme or bank erosion planting.

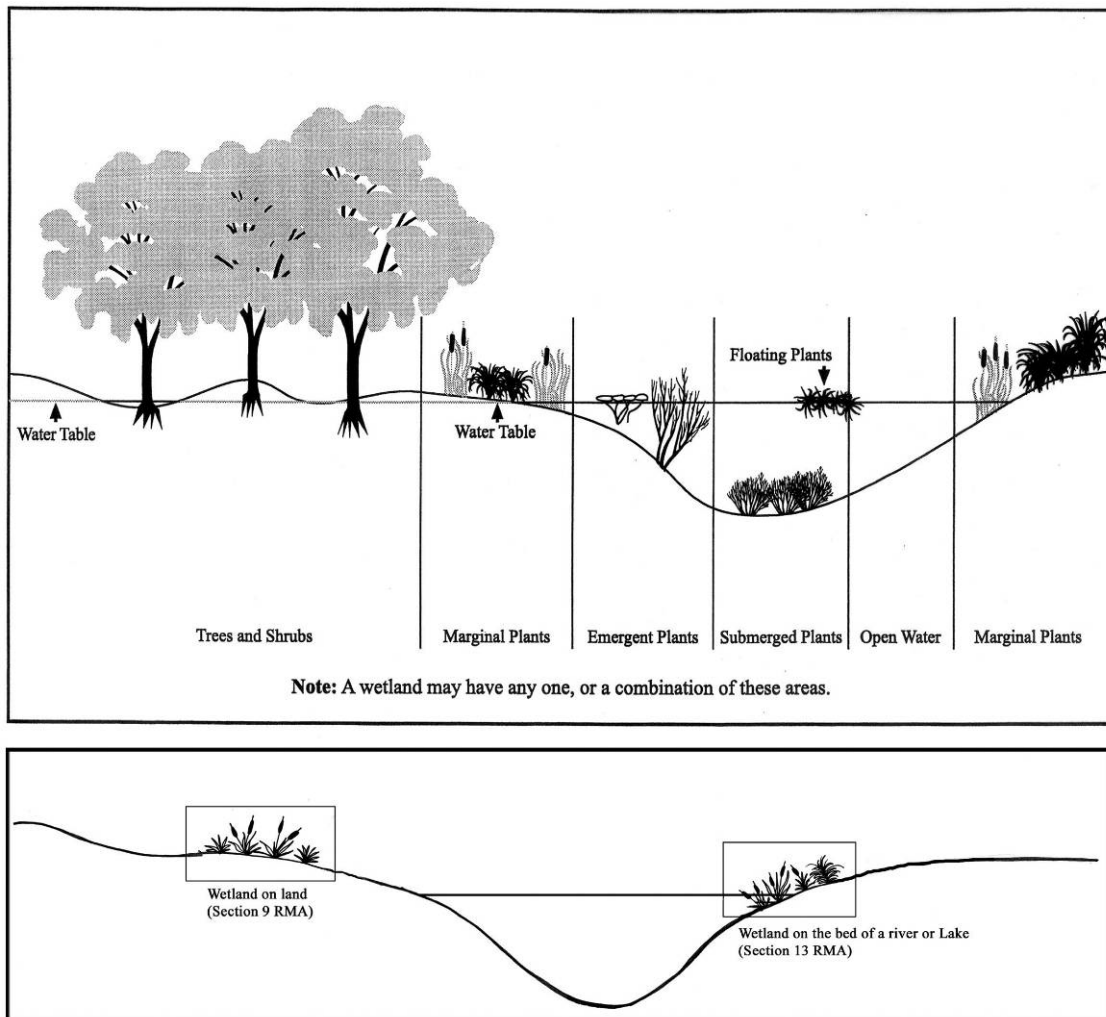


Figure DT 2 Types of Wetlands

Photos Showing Examples of wetlands

Wetlands that are subject to Rules in WL chapter

All coastal and estuarine wetlands above the mean high water springs



Photo 1 – Wetland on Coastal Margin with good vegetation and habitat values.

All wetlands that are in the bed of a river or lake



Photo 2 – Emergent wetland vegetation on the margins of a lake or pond.

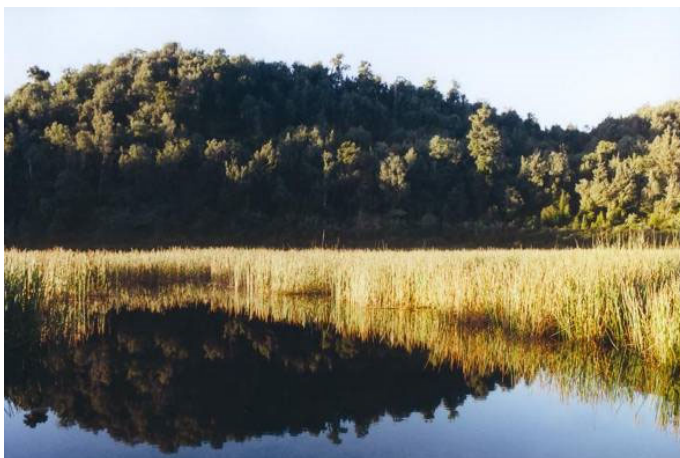


Photo 3 – Wetland part of the bed and riparian area of a river or stream.

Wetlands on land that have important water quality, water quantity, soil conservation or biodiversity values. Includes wetlands with indigenous vegetation, and those with exotic wetland vegetation that provides habitat for indigenous fauna.



Photo 4 – Wetland with good vegetation, with aquatic plant growth over open water areas.



Photo 5 – Good quality freshwater wetland with degraded or modified margins.



Photo 6 – Wetland with range of habitat values and vegetation, including open water and areas of indigenous and some exotic wetland species.

Wetlands that are not subject to Rules in WL chapter

It is appropriate to enhance such areas to improve water quality filtering, soil conservation or biodiversity values.



Photo 7 – Temporary ponding under poplars.



Photo 8 – Land depression dominated by pasture and other exotic species.



Photo 9 – Low lying land with patches of rushes.

If you are unsure if an area is a wetland and is subject to WL R2, WL R3 contact the Regional Council for a site assessment.

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Contents

Appendices

Appendix 1	Explanation/Principal Reasons for Provisions	1
Appendix 2	Financial Contributions	25
Appendix 3	Information to be Submitted with Resource Consent Applications.....	31
Appendix 4	Anticipated Environmental Results.....	35
Appendix 5	Cross Boundary Issues	39
Appendix 6	Plan Review Process.....	41

Appendix 1 – Explanation/Principal Reasons for Provisions

This appendix outlines the explanation and principal reasons for provisions in this regional plan. The contents of this appendix were previously included in previous versions of the regional plan in the relevant chapters.

IM Integrated Management of Land and Water

The objectives, policies and methods in the Integrated Management of Land and Water section are necessary to promote the sustainable and integrated management of water and soil resources in the Bay of Plenty region. The Regional Council aims to maintain good quality and quantity of groundwater and surface water, and ensure that soil is used in a sustainable manner. The long-term water quality management goal is to ensure that there is a net improvement in water quality across the region. The principle of water quality improvement, where achievable and practicable, has been adopted in this regional plan, and priority areas identified for targeted action (i.e. the Rotorua Lakes). This is consistent with Community Outcomes – Water in the Regional Council's Long Term Council Community Plan. The provisions also provide a framework for specific policies, methods and rules relating to discharges, water quantity, beds of streams, rivers and lakes, and wetlands. The Strategy for the Lakes of the Rotorua District provides a forum for developing co-operative integrated management approaches between the Regional Council, Rotorua District Council and Te Arawa Maori Trust Board. The Regional Council's Pest Management Strategy addresses biosecurity issues of plant and animal pests. By addressing biosecurity issues the adverse environmental issues of animal pests on soil conservation values are managed. Other mechanisms under the Pest Management Strategy, such as Environmental Programmes and Care Groups, also help address those effects.

Heritage matters are addressed in greater depth in the Bay of Plenty Regional Policy Statement, and relevant objectives and policies are cross-referenced in this regional plan. It is not efficient to replicate or amend provisions that have already been developed through a prior public process. Refer to Table A1 1 for the responsibilities of regional councils, city and district councils, and other resource management agencies with regards to heritage matters. Resource consent applicants are to identify means to avoid, remedy or mitigate adverse effects on the environment, including heritage values, in their consent application.

IM M10 links to the Criteria for Assessing Specified Matters in the Bay of Plenty Region in the Bay of Plenty Regional Policy Statement, which establish significance criteria to enable appropriate assessment of the values at an activity site. IM M10 applies when a resource consent is required under a discretionary rule; or a controlled or restricted discretionary rule where the Regional Council retains control or discretion over a heritage matter. In relation to Maori cultural values, the Regional Council has an existing iwi database (refer to KT M10) to identify appropriate contacts for consultation in the area of the activity site. Registered historic sites have also been mapped. Information on iwi contacts and registered historic sites are available on request and free of charge. Over time the Regional Council will also use the Criteria for Assessing Specified Matters in the Bay of Plenty Region to identify and record significant areas and sites. It will then be possible to schedule such areas and sites in relevant regional plans via publicly notified plan change process.

IM M26 sets the methodology used to establish the Water Quality Classifications for rivers, streams and lakes in the Bay of Plenty region. This follows from IM O3, which clearly identifies the water quality management goals for each classification. Appropriate classifications are applied to each water body in relation to existing environmental quality, aquatic ecological values, and human use values. The management goals in IM O3 will be achieved through the discharge standards and criteria in Schedule 9 (which apply to discretionary discharges to water under DW R8), and various other non-regulatory and regulatory methods in the regional plan. Any change to the Water Quality

Classifications under IM M25 will be via a plan change process in accordance with the Act. IM M23 will be implemented over time as priority catchments and contaminants are identified. Assessment and determination of site-specific toxicity limits will provide certainty for resource consent applicants.

The intent of the methods is to ensure an appropriate mix of ways to achieve sound management of water and soil resources. Education, provision of information and advice (IM M1, IM M2, IM M3, IM M4, LM M1, IM M1, KM M2, LM M3, LM M4, LM M5, LM M6, LM M7, LM M8, LM M9)) is often used as a first method of addressing adverse effects of use and development on water and soil resources. The

Bay of Plenty community believes that raising awareness of issues and ways to address those issues can be more effective than other methods. It is effective and efficient to work with other members of the community to achieve sustainable management, as noted in IM M5, IM M6, DW M19, RL M2, RL M3, LM M14, and IM M8 is a successful existing method used by the Regional Council in conjunction with pastoral landowners to endeavour to achieve sustainable management in the region, on the basis that preventative soil conservation works are one means of avoiding or mitigating erosion. In IM M20 and IM M21 the Regional Council has chosen to use rules to control the adverse effects of a selection of use and development activities. It is particularly important to note that rules will be used to address the risk of adverse effects from use and development activities; where there are actual or potential effects of high probability, or actual or potential effects of low probability but with high CIL TOI impact.

Under section 35 of the Act, the Regional Council has a duty to gather adequate information to understand the appropriate management of water, soil, geothermal and wetland resources and to determine the effectiveness of provisions in this regional plan, and monitor the state of the environment. Identification of research requirements relating to water, soil, geothermal and wetland resources will be an ongoing process. Such research may be conducted where cost effective (i.e. where information is needed to accurately manage and sustain the resource, and the risks to the resource are high). This is particularly relevant to investigating the quality and quantity of groundwater resources. Research may be carried out in conjunction with other resource management agencies, tangata whenua, and interest groups where appropriate. IM M14 is to establish environmental monitoring programmes with the community, such as the Stream Sense programme, to allow members of the community to monitor the state of their local environment themselves. In relation to IM M15,

Table A1 1 describes the NERMN monitoring modules that are relevant to this regional plan.

Table A1 1 NERMN Modules Relevant to the Regional Plan

	NERMN Module	Indicators Monitored
(a)	Meteorological	Rainfall monitoring, and other aspects of the weather cycle where necessary and appropriate.
(b)	Surface hydrology	River level and flow monitoring, lake level monitoring, groundwater monitoring and continuous water quality monitoring. Includes monitoring river flows in their natural state during periods of low flow, as seasons permit.
(d)	Groundwater	Quality and quantity of groundwater, including the level of nitrate.
(e)	Water Quality	Water quality in rivers, streams and lakes – bacterial, cyanobacterial toxin levels and nutrient levels in surface water, ionic balance and metals/pesticides, monitoring of bathing sites in accordance with the Ministry of Health/Ministry for the Environment Bathing Standards Guideline (1999) ⁵⁵ , emergence and bloom of water-weed and algae, and natural influences on water quality where appropriate. Includes assessing the effects of low water flows on water quality.
(f)	Freshwater Ecology	Condition of aquatic ecosystems using macroinvertebrate, macrophyte, fish communities, instream habitat and riparian vegetation monitoring.

⁵⁵ Ministry of Health/Ministry for the Environment, November 1999. Recreational Water Quality Guidelines, New Zealand.

	NERMN Module	Indicators Monitored
(g)	River and Stream Channel	Monitoring of gravel movement and effects of gravel extraction using cross-sections of selected rivers.
(h)	Land Sustainability	Land cover and use, soil health (quality), and soil intactness.
(i)	Wetlands	Extent and condition of wetlands.
(j)	Terrestrial Ecology	Extent and condition of terrestrial ecosystems.

The objectives, policies and methods in this section of the regional plan are to achieve the integrated management of natural resources in the region, and to address the effects of use and development activities on water and soil resources, and heritage values. The management of physical resources that cross catchment boundaries, such as state highway and other roading networks, are not subject to these provisions. However, the adverse effects of such resources are addressed under various sections of this regional plan, including Stormwater Discharges (in Discharges to Water and Land section), Activities in the Beds of Water Bodies (e.g. roading culverts and bridges), and rules restricting earthworks (in Land Management section).

It is recognised that a range of methods in this regional plan will be used to achieve integrated management, including sub-catchment management, and methods addressing specific areas within a catchment.

Where the implementation of IM M6 and IM M19 identifies that specific provisions (including regulation) are necessary to control the effects of activities on water quality in the catchments of municipal water supplies, or the recharge areas of potable groundwater supplies, such provisions will be included in district plans or relevant regional plans through formal plan change or variation processes in accordance with the requirements of the Act. Part of the implementation of these methods will include consultation with the community, particularly landowners in the affected areas.

LM Land Management

The retention or enhancement of vegetative cover, particularly in riparian areas, is necessary to maintain water quality, reduce erosion, and maintain or improve terrestrial and aquatic habitats in the region. Riparian areas are areas of land that require appropriate management that may be more restrictive or different to that on land further away from water bodies. This is recognised in the rules in this regional plan, and in the emphasis placed on riparian management in non-regulatory methods. Depending on the primary management objectives for individual riparian areas, management need not be “no go” (i.e. precluding the possibility of economic use). It is possible, for example, that if the objective is primarily water quality in the stream, then the riparian area could be planted in high quality, long rotation trees. This would be economic to harvest in small quantities (possibly selectively rather than by clear felling), with great care, and over long time periods. If, however, the primary objective is indigenous habitat protection, then management would effectively be complete retirement. The implementation of LM P3 is especially relevant in riparian areas, but also other sensitive environments, such as lakes and recharge areas of important aquifers.

DW Discharges to water and land

Discharges to water and land

The provisions in this chapter are necessary to achieve sustainable management of water and soil resources in the region, and to provide specific guidance on the management of discharges in the Bay of Plenty. The objectives, policies and methods are also to achieve the water quality, soil health, heritage values, and mauri objectives in the Integrated Management of Land and Water, and Kaitiakitanga sections of the regional plan.

DW P1 is required to implement RL O1 and IM O3 (in the Integrated Management of Land and Water section), and achieve the TLIs of lakes, the Water Quality Classification of lakes, rivers and streams, and take account of the water quality classifications of the Coastal Marine Area. In relation to Policy 38(b)(vii), dam owners are not required to gain consent for a discharge of contaminants to water, except in relation to dredging activities, but are subject to requirements for a discharge of water to water. Water from upper catchment areas flowing over or through a dam structure is not considered to be 'contaminant', and dam owners and operators are not responsible for the water quality resulting from activities in the catchment above the dam. The effects of discharges of contaminants on community health and safety are addressed through the use of Water Quality Classification standards and criteria, and assessing the effects of the proposed discharge of aquatic ecosystems. Two of the Water Quality Classifications, Water Supply and Contact Recreation, are specifically to protect human use values. Public health is protected by default by setting maximum contaminant levels to protect aquatic ecosystems. However, health and safety is not a primary responsibility of regional councils.

DW O3, DW P2 and DW P3, and DW M3, DW M4, DW M19, DW M20 are a proactive approach to the management of hazardous spills. The provisions recognise that city and district councils have a major role in the management of hazardous substances under the Hazardous Substances and New Organisms Act 1996. Matters relating to the management of hazardous substances and wastes are also addressed in The Regional Council's 'Management Strategy for Hazardous Substances, Waste and Contaminated Sites'⁵⁶ and may also be addressed in district plans.

DW P5 and LM M25, DW M30 are to address the effects of discharges on the mauri of water resources.

DW P8 and DW R8 are to prevent activities that are not acceptable to the wider community, and have adverse effects that may be difficult to remedy or mitigate.

IM O3 and IM P1 state that it is the intent of this regional plan to manage water quality to meet specific water quality classification standards and criteria. Schedule 9 contains the standards and criteria relevant to discharges. The Water Quality Classification map shows which standards and criteria have been applied to individual streams, rivers and lakes in the region in accordance with the criteria in IM M26. IM P6 and IM M25 will be implemented to review and update the water quality classifications. It is the intent of the regional plan to periodically review the water quality classification map to ensure the most appropriate classification applies to a water body, including upgrading a classification where it is necessary to enhance degraded water quality. Any review will be promulgated through a plan change process in accordance with the Act. LM M22 will be used where an existing discharge does not comply with the relevant water quality classification, or upgraded classification.

⁵⁶ The Bay of Plenty Regional Council, Opotiki District Council, Western Bay of Plenty District Council, Rotorua District Council, Tauranga District Council, Whakatane District Council, Kawerau District Council, 2003. Bay of Plenty's Draft Regional Waste Strategy.

Discharge of Stormwater

The provisions are necessary to address stormwater discharges, which are a significant activity in the Bay of Plenty. The provisions recognise and clarify the different functions of the Regional Council, the city council and district councils under the Act and other relevant legislation, as summarised in Table 1. This is an efficient and effective means to resolve stormwater management issues.

An appropriate mix of rules (including comprehensive catchment discharge consents), education, and working with the city council and district councils has been developed to achieve management of stormwater quality and quantity. Many of the methods follow the approach taken in Auckland Region as the approach has proven to be successful, and there are common issues between Auckland and the Tauranga/Western Bay of Plenty area (e.g. high urban growth in a sensitive harbour area).

DW O8, DW P14 and DW M40 are necessary to achieve integrated management of land use and stormwater. Integrated management is a major aim of this regional plan. It is recognised that management of stormwater within a catchment or sub-catchment framework may be problematic in relation to roads and state highways, and that alternative management approaches may be more appropriate in such circumstances. DW O9 and DW O11, DW P10, DW P14, and DW P15, and DW M42 encourage Low Impact Design, which is an efficient means of achieving integrated management and reducing the adverse effects of urban areas. Where there is a resource consent for a discharge of stormwater to water: the Regional Council will consider the requirements of DW O1 and DW O12, and DW P1, DW P14, and DW P15. These provisions provide for discharges to water (subject to reasonable mixing and compliance with the relevant water quality classification), while indicating the Regional Council prefers treatment of stormwater at source rather than reliance on the assimilative capacity of receiving environments. DW O9 requires stormwater discharge quality to be improved where the discharge is adversely affecting the environment. The most effective and practical options for improvement will be determined on a site by site basis. In some situations it may be more practicable to reduce adverse effects by changing from a discharge to water, to land soakage.

Table A1 2 Responsibilities for Stormwater Management

Responsibility	Bay of Plenty Regional Council	City and District Councils	Roading Authorities
Management of stormwater systems and associated infrastructure (flooding purposes)	No	Yes Function of city and district councils under the Local Government Act 1974.	Yes Only in relation to roading.
Treatment of stormwater (as appropriate to the circumstances)	No	Yes Where necessary to meet consent requirements	Yes Where necessary to meet consent requirements
Authorisation of discharges from stormwater systems to water (as defined in the Definition of Terms)	Yes Regional council function under s15 and s30 of the Act, unless the function is transferred to a city or district council.	No Unless the function has been transferred to a city or district council for an area covered by a Comprehensive Stormwater Consent.	No
Monitoring stormwater quality at point of discharge	Yes Compliance and impact monitoring of discharge consents.	Yes If required as part of resource consent	Yes If required as part of resource consent
Authorisation of discharges into piped stormwater systems	No	Yes	No

Responsibility	Bay of Plenty Regional Council	City and District Councils	Roading Authorities
Enforcement action under the Act for discharge of contaminants to stormwater system (prosecution may be taken at point of discharge or end of pipe depending on the circumstances)	Yes	Yes	Yes

Note: Table A1 2 includes functions under the Act, Local Government Act 2002 and the Transit New Zealand Act 1989.

Where there is a discharge of contaminants to a stormwater system, and it breaches the standards established in resource consent conditions for the stormwater system (or permitted activity rule conditions), prosecution may be taken against the operator of the stormwater system, or the discharger to the stormwater system, depending on the circumstances. Persons using stormwater systems as a means to discharge contaminants must be responsible for the appropriate treatment of their discharge to meet appropriate standards. It is recognised that contaminants from upstream areas and unauthorised discharges can enter stormwater systems, which is often beyond the control of the operator of the stormwater. However, the owners and operators of stormwater management systems, including roading authorities, are to take all practicable steps to avoid, remedy or mitigate the adverse effects of stormwater discharges.

The Comprehensive Stormwater Consents ('CSC') mentioned in DW M36 are a means of implementing integrated management of stormwater with catchment (or sub-catchment) frameworks (refer to DW O8 and DW P14). CSC's are required for priority catchments, which will be identified by the Regional Council, the city council and district councils, and documented in the Stormwater Strategy for the Bay of Plenty Region. Priority catchments are identified through a process that identifies where there are significant environmental issues, then overlays additional problem areas relating to city and district councils' concerns (e.g. flooding of urban areas or roading) to give a hierarchy of areas where action is necessary. CSC's are the preferred approach for managing stormwater within urban catchments, and define the overall parameters within which stormwater, and effects on the environment, are managed within a catchment. The CSC may cover a range of stormwater management activities within the specified area, including, but not limited to, stormwater discharges, associated structures (e.g. culverts, etc), maintenance of open stormwater drains, treatment devices, and damming and diversion of water. A CSC may be as broad or as limited as the resource user defines in their resource consent application, and are applied for under DW R8 as a discretionary activity. The consent conditions allow city and district councils to manage stormwater within the overall parameters without requiring individual consents, and set limits on the quality and quantity of stormwater discharges to the environment. Stormwater standards in CSC's will be different than those in DW R9 (which is only for small-scale, individual activities). DW P15, DW P17, DW P18 and DW P19, and DW M22, DW M23, DW M24, DW M30, DW M40, DW M41, DW M42 and DW M43 are also relevant to stormwater management under a CSC.

In relation to Table A1 2 and the implementation of the CSC, it is the intent of the regional plan to provide for the transfer of powers under section 33 of the Act to allow city and district councils to control activities associated with stormwater management in areas covered by a CSC. This may include stormwater discharges to streams, rivers and open drains, depending on the authorisation in the CSC. Individual section 33 transfer document will specify those functions that are transferred from regional council to the city or district council, and how the transfer will affect the regulatory control of activities not specified in the CSC. However, city and district councils will be required to have appropriate regulatory controls to enable appropriate management of discharges to stormwater systems.

It is intended that DW P17 and DW M25 will be implemented through the combination of the identification of high risk facilities as listed in Schedule 4 of this regional plan, and the Drainage Map, which is maintained by city and district councils in accordance with the requirements of the Local Government Act 1974 to show the size and location of stormwater pipes.

As stated by DW O13 and DW P21, it is the intent of this regional plan to encourage the discharge of stormwater to land soakage, where this is appropriate to the environmental limitations of the site. Land soakage is preferable to discharges to surface water bodies. Low Impact Design of urban areas (e.g. minimising the area of impermeable surfaces and retaining natural flood retention areas), and innovative management of stormwater (e.g. swales, land soakage, wetlands, infiltration systems, reuse of stormwater) are emphasised in DW M23, DW M24, DW M42, DW M43 and DW M44. DW R22 and DW R23 specifically provide for the discharge of stormwater to land.

Contaminated Land

The provisions in the Contaminated Land section are necessary to remedy or mitigate the significant adverse effects of contaminated land on the soil and water resources of the region. Avoiding land contamination by discharges to land and hazardous spills is addressed by the provisions of the Discharges to Water and Land section of this regional plan. DW O16, DW P21 to DW P26, and the Methods of Implementation are consistent with the requirements of the Act and national policy from the Ministry for the Environment.

The remediation of orphan contaminated land and innocent polluter issues are to be clarified by central government. In 2005 there are five guidelines by the Ministry for the Environment on contaminated site management in various states of completion or consultation. Central government has issued a policy on orphan sites and innocent polluter matters to state that legislative changes are needed to clarify the matters. DW P26 states that orphan contaminated land will be managed in accordance with national policy. There is an existing national fund for contaminated land remediation, although landowners must apply through regional councils to obtain funding.

With regards to DW P22, guidelines for the assessment and management of contaminated land are often revised and new guidelines are added as appropriate. Current examples of national guidelines include:

- (a) Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Ministry for the Environment, June 1999⁵⁷.
- (b) Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand, Ministry for the Environment, August 1997⁵⁸.
- (c) Health and Environment Guidelines for Selected Timber Treatment Chemicals, Ministry for the Environment, June 1997⁵⁹.

DW P21 to DW P26 and DW M45 to DW M52 are consistent with the responsibilities of the various parties described in Table A1 3 as determined by legislation.

Table A1 3 Responsibilities for Contaminated Land

Person or Agency	Responsibility
	Prevent: Prevent contamination of land or water with hazardous substances
Landowner or occupier	Avoid, remedy or mitigate any adverse effects of their activities (RMA). Apply for resource consent for any discharge of contaminants to land from industrial or trade premises, unless it is allowed by a regional plan (RMA).
Regional Council	Regulate discharges of hazardous substances to land (RMA). Monitor and enforce compliance with the RMA and regional plan rules (RMA).
City and District Councils	Regulate the establishment and operation of activities that use hazardous substances (RMA, BA, HSNO). Monitor and enforce compliance with the RMA and district plan rules (RMA).

⁵⁷ Ministry for the Environment, June 1999. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated sites in New Zealand. Wellington, New Zealand.

⁵⁸ Ministry for the Environment, August 1997. Guidelines for Assessing and Managing Contaminated Gasworks sites in New Zealand, Wellington New Zealand.

⁵⁹ Ministry for the Environment, June 1997. Health and Environment Guidelines for Selected Timber Treatment Chemicals. Wellington, New Zealand.

Person or Agency	Responsibility
Other Agencies ^a	Various responsibilities for regulating hazardous substances use (HSNO).
	Information: Provide information about whether land is or may be contaminated with hazardous substances
Landowner or occupier	Provide relevant information about land contamination to a district council or the Regional Council when applying for resource consents (RMA).
Regional Council	Provide relevant information about land contamination to members of the public who request it (LGOIMA).
City and District Councils	Provide relevant information about land contamination to members of the public who request a Project Information Memorandum (BA) or Land Information Memorandum (LGOIMA).
Other Agencies	N/A
	Investigate: Investigate the nature and effects of land contamination
Landowner or occupier	No specific obligation to investigate contamination except under the general responsibility to avoid, remedy or mitigate adverse effects, or if required to by the Regional Council (RMA), a district council (RMA, HA) or another agency.
Regional Council	Investigate or encourage/ensure investigation of contaminated land to assess whether they comply with the RMA and regional plans (RMA). Identify and rank contaminated land by level of risk.
City and District Councils	Investigate or encourage/ensure investigation of contaminated land to assess whether they comply with the RMA and the district plan (RMA).
Other Agencies	Investigate or encourage/ensure investigation of contaminated land to assess whether they comply with other legislation (HA, HSEA).
	Regulate land use: Regulate how contaminated land can be used (what activities can take place there)
Landowner or occupier	N/A
Regional Council	Regulate activities occurring on contaminated land, such as earthworks, that may cause discharges (RMA).
City and District Councils	Regulate activities occurring on contaminated land that do not comply with the RMA or the district plan, except if they are allowed by existing use rights (RMA).
Other Agencies	Regulate activities occurring on contaminated land that do not comply with other legislation such as the Health Act and the Health and Safety in Employment Act.
	Ensure appropriate management: Ensure remediation or other appropriate management of contaminated land.
Landowner or occupier	N/A
Regional Council	Ensure remediation or other appropriate management if the contamination is causing, or is likely to cause, effects on the environment that do not comply with the RMA or regional plans (RMA).
City and District Councils	Ensure remediation or other appropriate management if the contamination is causing, or is likely to cause, effects on the environment that do not comply with the RMA or the district plan (RMA).
Other Agencies	Ensure corrective action if the contamination is causing, or is likely to cause, effects on health and safety (HA, HSEA).
	Regulate remediation: Regulate how contaminated land is remediated (cleaned up)
Landowner or occupier	N/A
Regional Council	Regulate discharges to water or air caused by remediation, earthworks and similar activities on contaminated land (RMA).
City and District Councils	Regulate effects on the environment, other than discharges to water or air, caused by remediation, earthworks and similar activities on contaminated land

Person or Agency	Responsibility
	(RMA).
Other Agencies	Require compliance with other legislation during remediation, earthworks and similar activities on contaminated land (HA, HSEA).

Note:^(a) 'Other agencies' include the Environmental Risk Management Agency, the Medical Officer of Health and the Occupational Safety and Health Service of the Department of Labour.

Key to abbreviations

BA	Building Act 2004
ERMA	Environmental Risk Management Authority (responsible for administering the HSNO Act)
HA	Health Act 1956
HSEA	Health and Safety in Employment Act 1992
HSNO	Hazardous Substances and New Organisms Act 1996, and related Acts such as the Dangerous Goods Act 1974
LGOIMA	Local Government Official Information and Meetings Act 1987
RMA	Resource Management Act 1991

Water Quantity and Allocation

Damming and Diversion of Water

WQ P32 identifies the adverse effects of damming and diversion that are of particular concern to the Regional Council, and the requirements link to other sections of the regional plan, including take and use of water, land and water integration, and beds of streams, rivers and lakes. Both WQ P32 and WQ P34 provide guidance to the community about how existing and new damming and diversion activities are to be managed.

WQ P37 and WQ M10 and WQ M11 are efficient means of avoiding or mitigating the adverse effects of land use and development on natural water flowpaths. WQ M12 is to allow for the remediation of such effects. WQ R21 will be enacted where there are significant adverse effects on natural water flowpaths (including flood flow paths) resulting from land use and development.

Control of Water Levels in Natural Lakes

The provisions are necessary to avoid the adverse effects of artificial control of lake water levels and difficult associated management issues, while allowing for existing lake level controls.

WQ P41 and NH M4 are an efficient means of recognising the primary responsibilities of the city council and district councils to control land use and development under the Act and the Building Act 2004. It is often more efficient to avoid development in hazard areas, than to control the potential hazard of rising lake levels.

The 2% AEP levels in WQ P39 have been calculated for each lake using hydrological data collected by The Regional Council and its predecessors, and include freeboard to account for:

- Estimate imprecision - 0.3 metres.
- Local wind setup (generated by wind stress across the lakes) – 0.2 metres (depending on bathymetry and fetch).
- Wave run-up – 0.3 metres (depending on the slope of the beach).
- Seiche – 0.1 metres (depends on location).
- Construction tolerances – 0.1 metres (allows for minor levelling errors and ground settlement due to the weight of a building).
- The likely joint probability of the above factors bearing in mind that lake levels can remain elevated for several days (or even months).

WQ P40 and WQ M13 recognise that more appropriate control levels may be established in specific circumstances.

WQ P42 is an important means of educating the community to avoid certain activities in floodable areas around lakes, to understand and provide for natural fluctuations in the environment, and maintain realistic expectations in relation to lake level control.

BW Beds of Water Bodies

Activities in the Beds of Water Bodies

The provisions in this regional plan relating to activities in, on, under or over the beds of rivers, streams and lakes are necessary to achieve the integrated and sustainable management of surface water bodies and heritage values (particularly ecological values), in relation to soil conservation, water quality, water quantity and flood hazard management. The provisions link to the Strategy for the Lakes of the Rotorua District (August 2000)⁶⁰, the Bay of Plenty Pest Management Strategy 2003-2008⁶¹, and provisions in the Integrated Management of Land and Water section of this regional plan.

BW O4, and BW P2 and BW P3 are applicable to all activities in, on, under or over the beds of rivers, stream and lakes and signal to the community those adverse effects that are of particular concern to the Regional Council. BW P4, BW P7, BW P9, BW P10 and BW P11, and BW M9 and BW M10 provide guidance on what activities are discouraged or preferred in relation to environmental effects. BW M1 to BW M10 are also to encourage activities to be carried out to avoid, remedy or mitigate adverse effects. In relation to BW O1, temporary adverse effects on aquatic habitats from an activity can be accounted for by resource consent conditions.

BW P2 and BW P5 recognise that there are many existing structures and it may not be possible or equitable to avoid or remedy adverse environmental effects in these circumstances. BW P6 and BW M17, BW M21, BW M22, BW M23 and BW M27 specify the actions that will be taken to address derelict structures. In relation to BW P5, the Regional Council will initially assume any existing structure in, on, under or over the bed of a stream, river or lake is an 'authorised' structure, unless there is an adverse effect on the environment from the structure. The onus will then be on the owner or user of that structure to provide evidence of authorisation, and to comply with the requirements of this regional plan.

BW P10 specifies lakes that are identified as having high natural character in the Strategy for the Lakes of the Rotorua District.

The implementation of BW M12 will be a priority to the Regional Council due to the linkages to various permitted activity rules in this regional plan, and to maintain or enhance aquatic habitats. In the interim, fish passage devices and designs have been investigated and documented by NIWA and other agencies; and advice on the maintenance, enhancement or reinstatement of aquatic habitats may be obtained from the Regional Council, the Department of Conservation, or Fish and Game New Zealand.

BW P14 will be implemented when assessing resource consents for activities in, on, under or over the beds of streams, rivers or lakes; and land disturbance activities. It is recognised that maintaining public access to and along the margins of rivers and lakes is a matter of national importance under section 6(d) of the Act. However, there are circumstances where public access is not appropriate. These are listed in BW P14 to provide certainty to resource users.

⁶⁰ Te Arawa Maori Trust Board, Environment Bay of Plenty, Rotorua District Council, August 2000. Strategy for the Lakes of the Rotorua District.

⁶¹ Environment Bay of Plenty, 2003. Bay of Plenty Regional Pest Management Strategy 2003-2008. Environment Bay of Plenty, New Zealand.

Stock in Surface Water Bodies

The intent of BW O8 and BW O10 is to ensure landowners manage adverse effects of stock on streams, rivers, lakes and wetlands, and their existing uses of the surface water body. The policies and methods in the Stock in Surface Water Bodies section are necessary to achieve the soil conservation, water quality, aquatic habitat and wetland objectives of this regional plan. The provisions are intended to be practicable, and be implemented on a case-by-case basis on individual farms in relation to the specific environmental issues and values of the location. BW P15 and BW P20 target the problem areas in the Bay of Plenty region. IM M1 and IM M8 use existing successful programmes that have been proven to be effective at addressing agricultural issues. The Regional Council will encourage landowners to retire and fence riparian areas, and install single span bridges or culverts through non-regulatory methods, such as Environmental Programmes, where funding is first agreed by all parties.

The approach taken in this regional plan to address the adverse effects of stock access and crossing of surface water bodies is pragmatic, and practicable. It provides for the concerns of the wider community in addressing this issue, while recognising that the provision of alternative stock crossings or fencing of riparian areas may not be practicable in some circumstances, and that fencing may not be immediately affordable to landowners (or the community where such fencing is subsidised by the Regional Council and the city or district councils). A combination of rules (refer to BW R37 to BW R40) and non-regulatory methods are used to address the adverse effects of the activity, establish performance standards, and target priority areas.

WL Wetlands

The objectives, policies and methods in the Wetlands section of this regional plan are necessary to enact and clarify the Regional Council's responsibilities for wetland management under section 30 of the Act, as described in Table 1. WL M10 to WL M13 recognise that it is efficient to work with other resource management agencies who have management or advocacy roles.

Wetlands are particularly vulnerable to the adverse effects of use and development activities, which necessitates WL O1, WL P1, WL P2 and WL P3 and the Methods of Implementation (particularly WL R3). It is also important to encourage the creation of new wetland habitats to replace those lost in the past, as achieved by WL O3 and WL P7. WL P3 and WL P4 are necessary to enhance existing wetlands that have been degraded by human activities, and identify where it is most beneficial to target works. The Regional Council's Environmental Enhancement Fund is also available for financial assistance with wetland enhancement.

In regards to the implementation of WL M4 (wetland care groups), The Regional Council will encourage and support the development of wetland care groups where the community has expressed interest in forming a group, or where this would benefit a significant wetland. This would be subject to the involvement of the owner or manager of the wetland. Other organisations may also be involved as appropriate, including but not limited to, Department of Conservation, Fish and Game New Zealand, Landcare Trust, iwi, etc.

Wetland Management Agreements ('WMA') under WL M8 and WL R2 are developed and completed by landowners in partnership with a Regional Council Land Management officer. These are voluntary agreements. A WMA is to promote wetland management, and facilitate specified works that are necessary for wetland maintenance and enhancement. WMA's are intended to be a cost-effective and efficient alternative to resource consent processes, and promote and achieve best management practices for the site. Funding for wetland enhancement works is provided by the Regional Council's Environmental Enhancement Fund or Environmental Programmes. Templates for WMA's are available from the Land Resources section of Regional Council, or on Council's website (www.boprc.govt.nz). WMA's may include all activities listed in WL R2 (where applicable to the wetland), or be limited to those works necessary to a particular site. Other WMA's can be developed for a wetland where a landowner wishes to undertake further works in the future. The process to complete a WMA is:

- (a) Landowner contacts The Regional Council Land Management officer, and discuss proposed wetland maintenance and enhancement works.
- (b) WMA is drafted to document the proposed works and how the works will be undertaken to minimise adverse effects. This can be achieved either by the landowner with advice from a Land Management officer, or through a joint approach between the landowner and a Land Management officer.
- (c) Wetland Management Agreement is completed, agreed and signed by the landowner and Land Management officer.
- (d) Landowner undertakes wetland maintenance and enhancement works in accordance with the WMA.
- (e) Works monitored in accordance with agreements in the WMA.

Table A1 4 Responsibilities for Wetland Management

Responsibility	The Regional Council	City and District Councils	Department of Conservation and Fish and Game NZ ¹	Landowners
Direct ownership and management of wetlands	No	Yes Where the wetland is a city or district council reserve	Yes Where the wetland is a Department of Conservation or Fish and Game NZ reserve	Yes
Advocacy role for management of wetlands	Yes (includes advocacy, advisory services and hydrological expertise)	Yes	Yes	Yes Can become involved in Wetland care groups and other community groups
Control of activities in wetlands – statutory functions under the Act	Yes Detailed below ²	Yes Detailed below ³	No Have advocacy role	No But can have input through submissions on resource consents and regional plans
Wetlands on land not in the bed of a river or lake (section 9 of the Act)	Yes Control of the use of land is restricted to effects on water quality, water quantity and soil resources.	Yes Control the effects of the use, development or protection of land for any purpose under the Act (including matters in section 6 and 7), and control of subdivision		
Wetlands in the beds of rivers or lakes (section 13 of the Act)	Yes Control of the use of beds or rivers and lakes is solely regional council function, includes control of effects on plants and habitats of plants and animals.	No		

Responsibility	The Regional Council	City and District Councils	Department of Conservation and Fish and Game NZ ¹	Landowners
Take, use, damming or diversion of water in wetlands, includes the control of water quantity, levels and flow in water bodies (section 14 of the Act)	Yes Control of water quantity activities is solely regional council function	No		
Discharges of contaminants or water to wetlands (section 15 of the Act)	Yes Control of discharges is solely regional council function	No		

Notes:

¹ Both the Department of Conservation and Fish and Game NZ have responsibilities for wetlands under legislation other than the Act.

² The Regional Council's responsibilities are defined in section 30 of the Act.

³ District councils' (including city councils) responsibilities are defined in section 31 of the Act.

TH Tauranga Harbour

TH O1 is to achieve the sustainable management of riparian margins of permanent water bodies in priority catchments to maintain or enhance the values or management goals in riparian margins. Different environmental goals affect how riparian areas are managed, and there are different management options for various areas in the region. An element of interpretation and practical application is necessary on a site-by-site basis to determine the most appropriate practice for the riparian management goals and site characteristics.

For example:

- (a) Water quality maintenance or enhancement involves the retention of vegetation buffers to filter and absorb contaminants present in surface runoff. Long grass can provide a suitable buffer in some situations.
- (b) Soil conservation and erosion prevention involves appropriate plantings to stabilise margins, and avoiding use of riparian areas that is not suitable to the site characteristics.
- (c) Terrestrial habitat enhancement may require restoration plantings.
- (d) Aquatic habitat enhancement requires appropriate planting to increase shade, and provide leaf and natural vegetation debris.
- (e) Natural character and landscape enhancement requires plantings appropriate to those values of the area.

The Regional Council measures the achievement of TH O1 as either (a) or (b) below:

- (a) Exclusion of stock from water bodies – includes:
 - (i) Permanent stock-proof fencing with adequate riparian margin distance, and appropriate riparian vegetation to intercept nutrients and sediment in overland flow from adjoining pastoral land. Different fence types are more appropriate for flood plain areas.

- (ii) Permanent fencing with adequate riparian margin distance that prevents stock access to streams, with no riparian planting. Different fence types are more appropriate for flood plain areas.
 - (iii) Temporary electric fences with adequate riparian margin distance, with no riparian planting, that are sufficient to contain the stock type being controlled. Temporary fences can be shifted, and reused on other areas where stock are grazing.
- (b) Alternative land uses (other than stock grazing) in riparian areas, which may include full retirement and restoration.

TH O1 does not apply to ephemeral flowpaths or artificial watercourses. The measures to implement the Objective in this regional plan are non-regulatory mechanisms, including voluntary action by landowners (refer to LM M1, IM M1, LM M2, IM M3, LM M5, LM M6, and IM M8). Funding for riparian management is available through the Regional Council's Environmental Programmes (refer to IM M8). In relation to modified watercourses, appropriate riparian management will be agreed with the landowner/land user.

The Regional Council and landowners may also develop environmental management approaches specific to a catchment or property to achieve the sustainable management of riparian areas. Implementation of catchment or property specific documents, including Environmental Programmes or other farm management documents that address riparian management, will also be used to measure the achievement of TH O1. These types of documents are consistent with LM M1, IM M1, LM M2, IM M4 and LM M11, and may involve the application of the ethic of stewardship (Section 7 (aa) of the Act). Sustainable management of riparian areas as applied in practice can depend upon site characteristics, economic factors, land use type, and riparian management goals.

As at February 2005, a majority of the riparian areas in IM O6 have been retired from stock grazing, either with permanent stock-proof fences and appropriate plantings, the areas are in alternative land used, or other fences have been erected to prevent stock access to surface water bodies.

- (c) Tauranga Harbour and catchment:
- (i) Harbour margin – 208.9 kilometres in length, excluding islands. 13 kilometres still requires protection. 94% of the margin has stock excluded.
 - (ii) Streams and rivers in the catchment – 2,000 kilometres in length. 450 kilometres still to protect (900 kilometres of fencing). By 2005 78% of riparian areas of primary streams in the catchment had been protected. Subdivision in the area is assisting riparian retirement due to city and district councils acquiring esplanade reserves and strips as a condition of the subdivision, and changes of land use from pastoral to other land uses where fencing may not be necessary.

RL Rotorua Lakes

IM O1 to IM O7 and LM O1 to LM O5 provide minimum environmental goals, which the policies and methods seek to achieve. Table A1 55 shows the trophic level indices from RL O1 (which have been established in relation to Burns, 2001⁶², and current levels as at 2007. IM P1 is the main guidance mechanism used in this section of the regional plan which links the management of water and land resources. Water Quality Classifications have been established for all rivers, streams and lakes in the region to achieve the aims of the regional plan as described in the Introduction of this regional plan. RL O1 will primarily be achieved through IM P1, LM P1, LM P2, LM P3, RL M1 and RL M4, and rules in the Rotorua Lakes section of this regional plan. Non-regulatory methods (e.g. LM M1) will be used to maintain water quality in lakes that meet their TLI. The priority areas for the promotion of sustainable land management practices, as identified in LM M1, are the Rotorua Lakes (and in particular the lakes that do not meet their TLI), and Tauranga and Ohiwa Harbours. These areas were

⁶² Burns, N., 2001. Trophic Level Index Baselines and Trends for 12 Rotorua District Lakes, 1990 to 2000. Report by Lakes Consultancy prepared for Environment Bay of Plenty.

identified in Bay of Plenty Regional Soil Conservation Assessment (Wilson and Ngapo, February 1993⁶³).

Table A1 5 Trophic Level Indices (TLI) – Current and Management Goals

Lake	TLI in Objective 11	Current 3 year average TLI (to 2007)
Okareka	3.0	3.3
Okaro	5.0	5.5
Okataina	2.6	2.8
Rerewhakaaitu	3.6	3.5
Rotoehu	3.9	4.6
Rotoiti	3.5	4.1
Rotokakahi	3.1	3.5
Rotoma	2.3	2.5
Rotomahana	3.9	3.9
Rotorua	4.2	4.9
Tarawera	2.6	2.8
Tikitapu	2.7	3.0

The Regional Council uses the TLI system as a means of measuring lake water quality based on the amount of total nitrogen, total phosphorus and chlorophyll A (algae) present in the lake, and the clarity of the lake. Chlorophyll A and clarity (measured as secchi depth) are a consequence of the amount of total nitrogen and total phosphorus in a lake. The resulting numeric value is the TLI for an individual lake. The TLI methodology can be used to establish an average TLI value for a lake for the period over which water quality data has been collected, or determine the TLI trend during a specified period of time (i.e. the rate of change in the trophic level of a lake). An average TLI from one period can be used as a baseline, which can then be compared to a second average TLI from a later period of time. This comparison determines if lake water quality is remaining stable, improving or deteriorating. If water quality is found to be changing (either improving or deteriorating), the rate of change can then be investigated. This quantitative system provides definitive information about the state of the lake water quality in the region. The TLI methodology has been adopted by the Ministry for the Environment, and will be used in New Zealand to enable the comparison for water quality between different lakes. For a detailed explanation of the TLI methodology refer to 'Protocol for Monitoring New Zealand Lakes and Reservoirs' (Burns, 2000⁶⁴).

An explanation of each of the TLIs in RL O1 is given in Table A1 6. Many of the TLIs have been set at the 1994 level, as at this time the community expressed the expectation lake water quality should be no lower than at that time during consultation on the Regional Plan for the Tarawera River Catchment. In 1993, Sigma Consultants et al⁶⁵, prepared a report for Rotorua District Council on the effects of land use activities on water quality. The report identified that lake water quality targets should be no less than their present (1993) quality.

Table A1 6 Explanation of TLI in RL O1

Lake	Current 3 year average TLI (to 2007)	TLI in RL O1	Explanation of TLI in RL O1
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⁶³ Wilson, A., and Ngapo, N., 1993. Bay of Plenty Regional Soil Conservation Assessment. Bay of Plenty Regional Council unpublished report.

⁶⁴ Burns, N., 2000. Protocol for Monitoring New Zealand Lakes and Reservoirs. Ministry for the Environment.

⁶⁵ Sigma Consultants, NIWA, Bioresarches Ltd, and NZFRI, June 1993. Report on Rural Land Use Practices in the Rotorua District. Report prepared for Rotorua District Council.

Lake	Current 3 year average TLI (to 2007)	TLI in RL O1	Explanation of TLI in RL O1
Okareka	3.3	3.0	Level in 1994. In 1994 the Regional Plan for the Tarawera River Catchment was publicly notified, which stated that lake water quality would be maintained at current state. Lake Okareka lies within the Tarawera Catchment. Lake water quality classifications have been updated in the Regional Plan to include TLI's, but retain community ideal of 'no degradation from 1994'.
Okaro	5.5	5.0	Set at a realistic level that is lower than current TLI (i.e. to improve lake water quality).
Okataina	2.8	2.6	Level in 1994 (which has been unchanged).
Rerewhakaaitu	3.5	3.6	Level in 1994 (note: the Regional Council has been working within the Rerewhakaaitu Catchment due to concern about lake water quality degradation. However, this seems to be in relation to natural lake water level changes.)
Rotoehu	4.6	3.9	Set at a level that equates to the last 'good' year for water quality in the lake – 1992/93.
Rotoiti	4.1	3.5	Level in 1994. Relates to the year of notification of the Regional Plan for the Tarawera River Catchment, and consistency with the goal for other lakes (i.e. lake water quality to be maintained at 1994 levels).
Rotokakahi	3.5	3.1	Level in 1994 (which has been unchanged).
Rotoma	2.5	2.3	Level in 1994 (which has been unchanged).
Rotomahana	3.9	3.9	Level in 1994 (which is slightly higher than current water quality).
Rotorua	4.9	4.2	Level set in relation to the removal of sewage from the lake. When the Rotorua city sewage discharge was moved to land disposal, water quality expectations for the lake were stated in documents associated with the consent.
Tarawera	2.8	2.6	Level in 1994 (which is slightly lower than current water quality – not sufficient to take regulatory action, and may be part of a natural cycle).
Tikitapu	2.8	2.7	Level in 1994 (which is slightly lower than current water quality – not sufficient to take regulatory action).

The package of methods to improve lake water quality is shown in Table A1 7 below, and the implementation of those methods is illustrated in Figure A1 1. It is important to note that a range of methods will be used to maintain or improve lake water quality, including regulation where necessary. Many methods will be implemented from 2003, or are already being implemented. The Action Plans are the major method used to improve lake water quality, with the rules in the Rotorua Lakes section being a mechanism to ensure nitrogen and phosphorus levels do not increase further. It is intended that the rules in the Rotorua Lakes section will be replaced with mechanisms that are appropriate to specific catchments. RL M1 states that there will be an Action Plan developed for each of the Rotorua Lakes over time. Initial work has focused on the five lakes where water quality exceeds the TLI set in RL O1. A risk assessment will be carried out for the remaining lakes to determine the risk of the lake exceeding the TLI set in RL O1, after which the development of further Action Plans will be prioritised. Should it be necessary to include any other methods (either regulatory and/or non-regulatory) in this regional plan for other Rotorua Lakes, this will be achieved via a publicly notified plan change process in accordance with the requirements of the Act (refer to Figure A1 1).

The rules in the Rotorua Lakes section of this regional plan uses effects-based regulations for land use activities in the Rotorua Lakes' catchments, which target the export of nitrogen and phosphorus. It does not preclude specific land uses from lakes' catchments, prescribe how a land use must be

carried out, or require land retirement within a catchment. Regulations in the Rotorua Lakes section of this regional plan set a nutrient cap for each property in the lake catchment, within which landowners can make their own decisions about the type of land use activity and land management practices implemented on the property. Over time it is likely that technology and innovation will reduce nutrient losses, so it is not appropriate to either prohibit or require a specific land use. Integrating land use planning and regulations in regional council and district council plans under RL M3 will be implemented by applying the water quality objectives in this regional plan, and outcomes from Action Plans developed under RL M1. Under the Act, district plan provisions must not be inconsistent with a regional plan. It is also anticipated that regional plans and district plans may be amended in accordance with catchment requirements identified in Action Plans, which the Regional Council will work in conjunction with Rotorua District Council to achieve. The land use regulations in the Rotorua Lakes section of this regional plan currently apply to Lakes Rotorua, Rotoiti, Ōkāreka, Rotoehu and Ōkaro. Where any of the other Rotorua Lakes meets the requirements of RL M4(1) or (2), an action plan for that lake will be developed in accordance with RL M1, and appropriate land use regulations developed.

Table A1 7 Methods to Manage Lake Water Quality

Method	All Lakes	Degraded Lakes
Non-Regulatory Methods		
Riparian Retirement (LM M1)	✓	✓
Action Plans (RL M1)	✓	✓
Review of Rules in the Rotorua Lakes section (RL M2)		✓
Education on nutrient management (IM M1, IM M3, IM M17)	✓	✓
Best Nutrient Management Practices document (IM M17)	✓	✓
Regional Council Environmental Programmes (IM M8)	✓	✓
Ongoing monitoring and research (IM 15, RL M7, LM M26, LM M27, IM M18)	✓	✓
Regulatory Methods		
Rules in Rotorua Lakes section	✓ (Rules for other lakes will be added via a plan change process)	✓
Other discharges in the catchment	✓	✓

Blue-green algae (cyanobacteria) are a group of bacteria, rather than true algae, that have acquired chlorophyll to capture light and behave like plants. Some cyanobacteria produce toxins that can cause a range of health problems, such as skin irritations, nervous system disorders, or cause liver problems, where people are exposed to acute or chronic toxicity levels. Surface blooms occur in the Rotorua Lakes when buoyant *Anabaena* or *Microcystis* species accumulate in surface water by using elevated light and nutrient to proliferate and form surface blooms. High numbers of blue-green algae can accumulate in bays due to wind drift where they can form surface scums. RL O2 and IM P1(c) are necessary to reduce the occurrence and intensity of cyanobacteria blooms in the Rotorua Lakes. Lowering the high levels of both nitrogen and phosphorus in the Rotorua Lakes is the key to reducing the frequency of such blooms. The possibility of solely targeting phosphorus to change the dominant algal species in a lake from blue-green to green has been raised. However, lake scientists have clearly stated that the high concentrations of nitrogen and phosphorus are the critical matters in the Rotorua Lakes, not just the N:P (Nitrogen to Phosphorus) ratio. Different algal species may utilise different nutrients at different times of the year, so reducing just one nutrient may do little more than change the dominant species. Implementation of RL O2 and IM P1(c) are linked to IM P1(a), RL M1, IM M21, and regulatory mechanisms in the Rotorua Lakes section. Regular algal monitoring is carried out to help ensure that recreational users of the Rotorua Lakes receive adequate warning when the lakes are not safe for swimming, and other recreational activities. Health warnings are occasionally issued for lakes or bays alerting lake users of potential health risk from using water affected by high

levels of cyanobacteria. Algal species and algal numbers (blooms) are monitored as part of the NERMN programme (refer to IM M15 and the Explanation/Principal Reasons for Integrated Management of Land and Water section in this appendix).

In relation to IM P1(a), the levels of nitrogen and phosphorus in lakes is managed to prevent a net increase in either nutrient. If nitrogen levels decrease, this will not allow for an allowable increase in phosphorus.

The Regional Council's lake monitoring programme is conducted under the umbrella of the NERMN, and is detailed in Table A1 8. Lake water quality indicators will be reviewed and refined in relation to improved scientific knowledge in accordance with RL M8. The Regional Council also funds the Chair in Lakes Management and Restoration at Waikato University to carry out research on lakes, including the causes of algal blooms. Ongoing research is used to provide a sound scientific basis for lake management actions, and focuses on the following topics:

- (a) In-lake modelling to examine specific processes and dynamics in the Rotorua Lakes.
- (b) Sediment-water interaction, and effects on the water column.
- (c) Algal dynamics.
- (d) Assessment of engineering solutions to lake water quality issues.
- (e) Technological innovation investigations.

Table A1 8 Lake Water Quality Programme (at 2005)

	Lake Water Quality Aspect	Monitoring Programme
(a)	Dissolved oxygen	All lakes monitored monthly.
(b)	Temperature	All lakes monitored monthly.
(c)	Total Phosphorus (TP)	All lakes monitored monthly.
(d)	Total Nitrogen (TN)	All lakes monitored monthly.
(e)	Chlorophyll a	All lakes monitored monthly.
(f)	Algae	All lakes monitored monthly for species present. Summer and autumn – concentration of cyanobacteria (blue-green algae) monitored in at-risk sites on a weekly basis.
(g)	Bathing suitability	Bacterial levels monitored during Summer period in accordance with Environment Bathing Standards Guideline (Ministry of Health/Ministry for the Environment, 2003). Also refer to Algae.
(h)	Lake weed	Monitoring programme in development stage.
(i)	Lake-side wetlands	Monitoring programme in development stage.

(a) to (f) are used to determine the TLI.

RL O3 is to achieve the sustainable management of riparian margins of permanent water bodies in priority catchments to maintain or enhance the values or management goals in riparian margins. Different environmental goals affect how riparian areas are managed, and there are different management options for various areas in the region. An element of interpretation and practical application is necessary on a site-by-site basis to determine the most appropriate practice for the riparian management goals and site characteristics.

For example:

- (a) Water quality maintenance or enhancement involves the retention of vegetation buffers to filter and absorb contaminants present in surface runoff. Long grass can provide a suitable buffer in some situations.
- (b) Soil conservation and erosion prevention involves appropriate plantings to stabilise margins, and avoiding use of riparian areas that is not suitable to the site characteristics.
- (c) Terrestrial habitat enhancement may require restoration plantings.
- (d) Aquatic habitat enhancement requires appropriate planting to increase shade, and provide leaf and natural vegetation debris.
- (e) Natural character and landscape enhancement requires plantings appropriate to those values of the area.

The Regional Council measures the achievement of RL O3 as either (a) or (b) below:

- (a) Exclusion of stock from water bodies – includes
 - (i) Permanent stock-proof fencing with adequate riparian margin distance, and appropriate riparian vegetation to intercept nutrients and sediment in overland flow from adjoining pastoral land. Different fence types are more appropriate for flood plain areas.
 - (ii) Permanent fencing with adequate riparian margin distance that prevents stock access to streams, with no riparian planting. Different fence types are more appropriate for flood plain areas.
 - (iii) Temporary electric fences with adequate riparian margin distance, with no riparian planting, that are sufficient to contain the stock type being controlled. Temporary fences can be shifted, and reused on other areas where stock are grazing.
- (b) Alternative land uses (other than stock grazing) in riparian areas, which may include full retirement and restoration.

RL O3 does not apply to ephemeral flowpaths or artificial watercourses. The measures to implement the Objective in this regional plan are non-regulatory mechanisms, including voluntary action by landowners (refer to LM M1, IM M1, LM M2, IM M3, LM M5, LM M6, and IM M8). Funding for riparian management is available through the Regional Council's Environmental Programmes (refer to IM M8). In relation to modified watercourses, appropriate riparian management will be agreed with the landowner/land user.

The Regional Council and landowners may also develop environmental management approaches specific to a catchment or property to achieve the sustainable management of riparian areas. Implementation of catchment or property specific documents, including Environmental Programmes or other farm management documents that address riparian management, will also be used to measure the achievement of RL O3. These types of documents are consistent with LM M1, IM M1, LM M2, IM M4 and LM M11, and may involve the application of the ethic of stewardship (Section 7 (aa) of the Act). Sustainable management of riparian areas as applied in practice can depend upon site characteristics, economic factors, land use type, and riparian management goals.

As at February 2005, a majority of the riparian areas in IM O6 have been retired from stock grazing, either with permanent stock-proof fences and appropriate plantings, the areas are in alternative land used, or other fences have been erected to prevent stock access to surface water bodies.

- (c) Rotorua Lakes and catchments
 - (i) Margins of all Rotorua Lakes – 306 kilometres in length. 99% had been completed by 2005 with approximately 4 kilometres still to protect.
 - (ii) Streams and rivers in the catchments of the Rotorua Lakes – 70% of the margins and tributaries have been completed by 2005. There are an estimated 35 kilometres of stream margin still to be protected, half of which is in the Lake Rotorua catchment. It is important to note that only the catchments of Lakes Rotorua and Rotoiti were targeted by the Kaituna Scheme, and retirement in all other lakes has been achieved by landowners in conjunction with Regional Council soil conservation works.

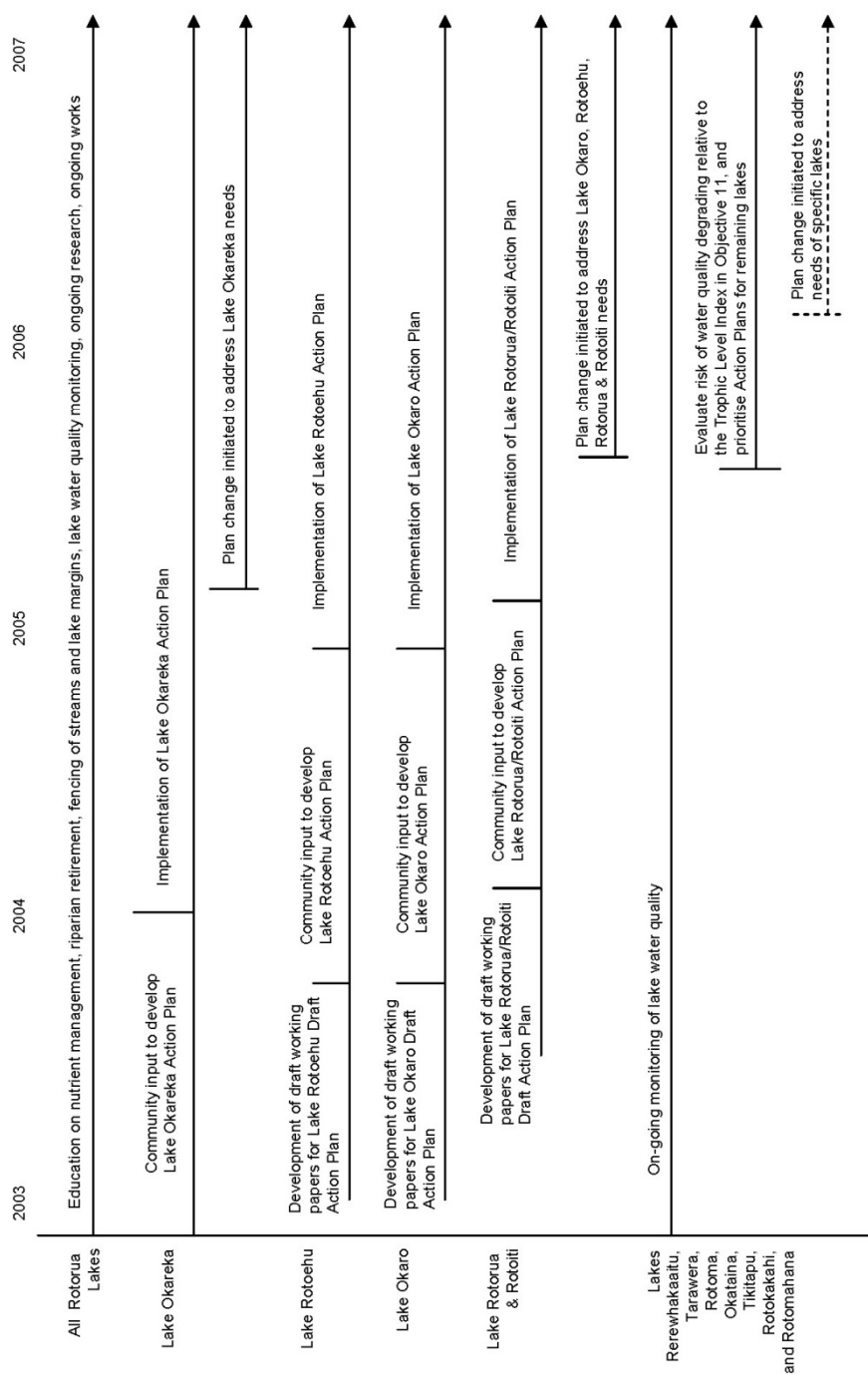


Figure A1 1 Lake Water Quality Management Timetable

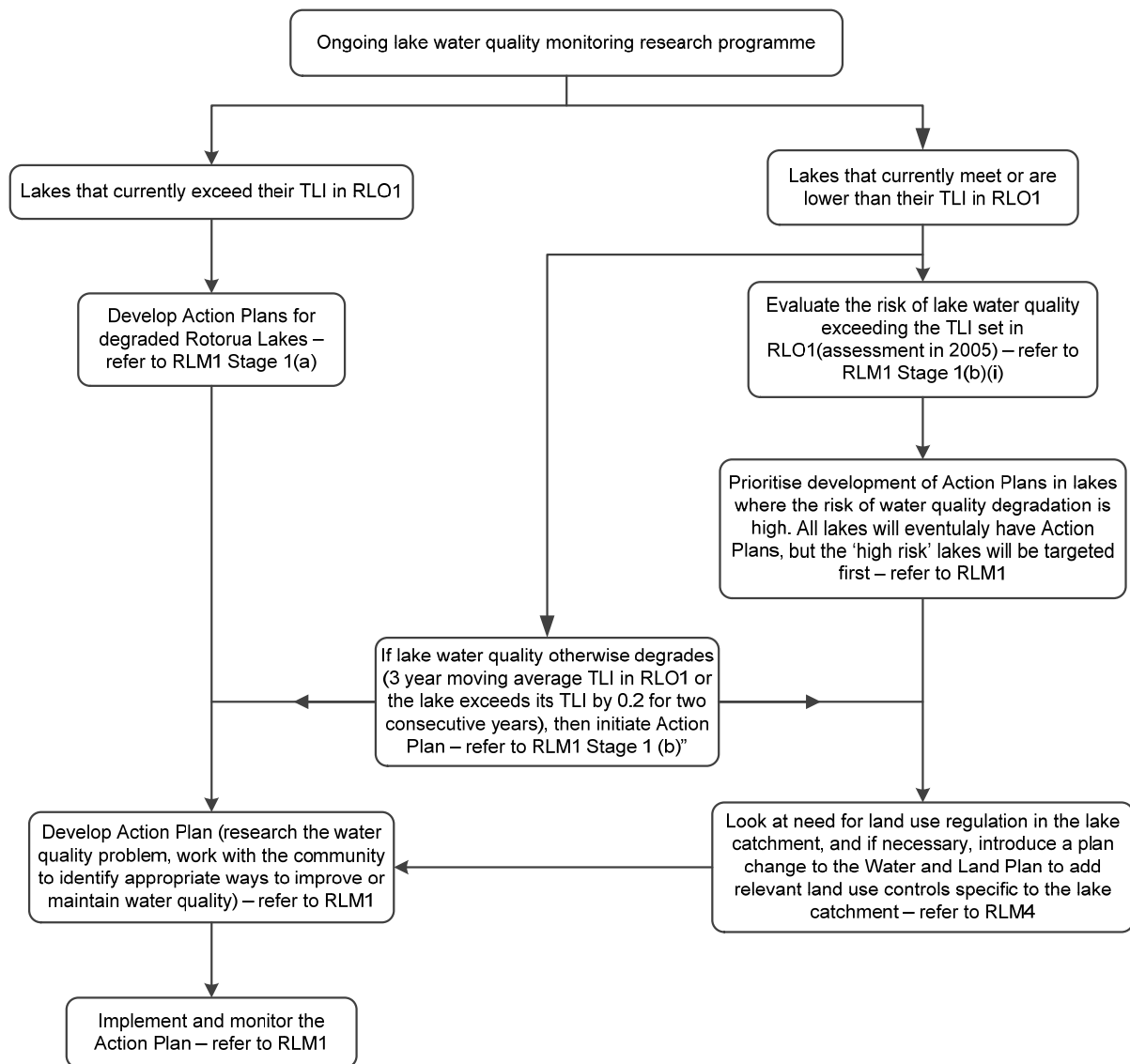


Figure A1 2 Lake Action Plans and Regulation

OH Ōhiwa Harbour

OH O1 is to achieve the sustainable management of riparian margins of permanent water bodies in priority catchments to maintain or enhance the values or management goals in riparian margins. Different environmental goals affect how riparian areas are managed, and there are different management options for various areas in the region. An element of interpretation and practical application is necessary on a site-by-site basis to determine the most appropriate practice for the riparian management goals and site characteristics.

For example:

- (a) Water quality maintenance or enhancement involves the retention of vegetation buffers to filter and absorb contaminants present in surface runoff. Long grass can provide a suitable buffer in some situations.
- (b) Soil conservation and erosion prevention involves appropriate plantings to stabilise margins, and avoiding use of riparian areas that is not suitable to the site characteristics.
- (c) Terrestrial habitat enhancement may require restoration plantings.
- (d) Aquatic habitat enhancement requires appropriate planting to increase shade, and provide leaf and natural vegetation debris.
- (e) Natural character and landscape enhancement requires plantings appropriate to those values of the area.

The Regional Council measures the achievement of OH O1 as either (a) or (b) below:

- (a) Exclusion of stock from water bodies – includes:
 - (i) Permanent stock-proof fencing with adequate riparian margin distance, and appropriate riparian vegetation to intercept nutrients and sediment in overland flow from adjoining pastoral land. Different fence types are more appropriate for flood plain areas.
 - (ii) Permanent fencing with adequate riparian margin distance that prevents stock access to streams, with no riparian planting. Different fence types are more appropriate for flood plain areas.
 - (iii) Temporary electric fences with adequate riparian margin distance, with no riparian planting, that are sufficient to contain the stock type being controlled. Temporary fences can be shifted, and reused on other areas where stock are grazing.
- (b) Alternative land uses (other than stock grazing) in riparian areas, which may include full retirement and restoration.

OH O1 does not apply to ephemeral flowpaths or artificial watercourses. The measures to implement the Objective in this regional plan are non-regulatory mechanisms, including voluntary action by landowners (refer to LM M1, IM M1, LM M2, IM M3, LM M5, LM M6, and IM M8). Funding for riparian management is available through the Regional Council's Environmental Programmes (refer to IM M8). In relation to modified watercourses, appropriate riparian management will be agreed with the landowner/land user.

The Regional Council and landowners may also develop environmental management approaches specific to a catchment or property to achieve the sustainable management of riparian areas. Implementation of catchment or property specific documents, including Environmental Programmes or other farm management documents that address riparian management, will also be used to measure the achievement of OH O1. These types of documents are consistent with LM M1, IM M1, LM M2, IM M4 and LM M11, and may involve the application of the ethic of stewardship (Section 7 (aa) of the Act). Sustainable management of riparian areas as applied in practice can depend upon site characteristics, economic factors, land use type, and riparian management goals.

As at February 2005, a majority of the riparian areas in IM O6 have been retired from stock grazing, either with permanent stock-proof fences and appropriate plantings, the areas are in alternative land used, or other fences have been erected to prevent stock access to surface water bodies.

(a) Ohiwa Harbour and catchment

- (i) Harbour margin – 55.8 kilometres in length, excluding islands. Four kilometres of margin still to protect. 93% of margin retired by 2005.
- (ii) Streams and rivers in the catchment – 500 kilometres in length. 70 kilometres of stream margin still to protect (140 kilometres of fencing), half of this in the Nukuhou Catchment. 86% of riparian areas retired by 2005.

GR Geothermal Resources

GR O2, GR O3 and GR O4 and GR P1, GR P2 and GR P3 are necessary to preserve outstanding geothermal surface features, protect significant natural geothermal surface features from the inappropriate use and development, and protect significant indigenous geothermal ecosystems. The intent of GR P3 is self-explanatory (identify geothermal fields that are to be preserved, or are available for use and development). GR P4 uses a precautionary approach for the management of newly discovered geothermal fields until the values and surface features have been properly assessed. GR O1 is to be achieved through the implementation of GR P1, GR P3, GR P5, GR P6 and GR P9 and GR M3, GR M5, GR M7, GR M8, GR M10 and GR M13. GR M5 will be implemented over the life of this regional plan to account for the availability of funding from the organisations involved. It is also recognised that some geothermal surface features and associated natural ecosystems are already noted in existing ecological and heritage surveys.

GR P1 and GR P5 are fair and equitable means of allocating geothermal resources, and using such resources in an efficient way. GR P6 provides guidance to the community on the preferred means of discharging used geothermal fluid to the environment. GR P8 and GR P12, and IM M15, GR M8 and GR M10 are to assist the Regional Council to collect sufficient information to manage geothermal resources efficiently and effectively. GR O8 is necessary to promote the sustainable management of geothermal resources through efficient use. GR P1 and GR P5, and GR M2 and GR M10 implement GR O8. It is appropriate to assess the efficient use of geothermal resources on a case by case basis. In relation to GR P1, an integrated field management approach will be implemented through the resource consent process. Many fields have multiple users, however, it is recognised that single users or consortia may be more appropriate in some situations. The appropriateness of multiple or single users will be assessed relative to the characteristics of the individual field, including existing development. It is not the intent of GR P6 and the definition of 're injection' to require the reinjection of gases, rather to provide guidance on the discharge of geothermal fluid, condensates and gases. It is recognised that the reinjection of gases may not be economically viable relative to the environmental effects. The discharge of gases to air is addressed by provisions in the Operative Bay of Plenty Regional Air Plan.

Managing the effects of geothermal hazards is addressed by GR P14 and GR M3, GR M5 and GR M6. These provisions are to achieve GR O7, and recognise the responsibility city and district councils to also address this issue.

Under section 35 of the Act, the Regional Council has a duty to gather adequate information to understand the appropriate management of geothermal resources and to determine the effectiveness of provisions in this regional plan, and monitor the state of the environment. In relation to GR M14. Table A1 9 describes the NERMN monitoring modules that are relevant to geothermal resources.

The use and development of geothermal resources may be staged (i.e. the consent extraction may be increased in steps as greater understanding of the resource is gained from each preceding step) in accordance with GR P1 and GR M9. Such staging would be reflected in conditions of resource consent. The Regional Council may set an allocation limit in a resource consent, and the resource user may apply for a greater volume when appropriate information is available to justify that higher level (refer to GR M9). Alternatively, the Regional Council may set staged allocation limits in resource consent (*i.e. allocate x volume to be used up to year 5, y volume to be used from year 5 to 10, and z volume to be used for the remainder of the consent*). The ability of the consent holder to continue operating according to current resource consent conditions, or to exercise any increase in the allocation from one stage to another, would be determined following review by the Regional Council of the effects of extraction to date (including environmental monitoring results), where such reviews are provided for in the resource consent.

Table A1 9 NERMN modules relevant to Geothermal Resources

	NERMN Module	Indicators Monitored
(a)	Geothermal Groundwater	Quantity of geothermal groundwater.

NH Natural Hazards

Management of Flood Hazards and Drainage

The provisions in this section are necessary to address the Regional Council's responsibilities for flood hazard mitigation under section 30 of the Act, and manage the adverse environmental effects of river and land drainage schemes.

NH O1, NH P1 and NH P3 are intended to manage the effects of flood hazards on the community. NH M2, NH M3, NH M4, NH M5 and NH M9 are efficient means of achieving the policies, and recognise the different roles of regional, city and district councils in hazard mitigation.

NH O2, NH P4 and NH P5, and NH M8 provide the basis for the appropriate management of river and land drainage schemes. NH M8 requires implementation of the the Regional Council 'Environmental Code of Practice for Rivers and Drainage Maintenance Activities'⁶⁶, but other river or land drainage scheme administrators may develop their own code of practice to comply with the requirements.

NH O3, NH P2, and NH M6 are to recognise the primary function of the city council and district councils to protect the integrity of flood control structures from the adverse effects of land use and development. However, NH M7 does provide for appropriate conditions in regional rules controlling the use and development of the beds of rivers and streams in relation to adverse effects on flood control structures.

⁶⁶ Crabbe, B., and Ngapo, N., 2000. Environmental Code of Practice for Rivers and Drainage Maintenance Activities. The Regional Council Operations Report 2000/01.

Appendix 2 – Financial Contributions

The contents of this appendix were previously included in previous versions of the regional plan as Chapter 10.

Where the Regional Council grants a resource consent under the rules in this regional plan, it may impose a condition requiring that a financial contribution be made for the purposes specified in the regional plan. City or district councils may also impose financial contributions on activities under the provisions of district plans. The Regional Council does not require financial contributions as 'development impact fees' as is the case with city and district councils. Financial contributions will not automatically be applied to any activity where a resource consent is required. Financial contributions are available to remedy or mitigate the adverse effects on natural and physical resources that can not otherwise be avoided, remedied or mitigated. If adverse effects can be avoided, remedied or mitigated, including off-site mitigation, and this is identified in a resource consent application, then financial contributions will not be required. However, the Regional Council may require financial contributions or a contractual agreement if mitigation is dependant on a third party. Financial contributions are not used for environmental enhancement, unless it is more efficient to enhance the values of another site rather than avoid, remedy or mitigate adverse effects at the activity site.

The term 'financial contribution' is defined in section 108(9) of the Act.

The Act requires the Regional Council to specify in the regional plan the circumstances when a financial contribution may be imposed, the manner in which the level of contribution that may be imposed will be determined, and the general purposes for which the contribution may be used.

The following provisions in the sections below, Matters to be Considered and General Provisions reflect the requirements of the Act and set out:

- 1 The circumstances when financial contributions may be imposed.
- 2 The purposes for which financial contributions may be required and used.
- 3 The manner in which the amount of the contribution will be determined.
- 4 Matters that the Regional Council will have regard to when deciding whether to:
 - (a) Impose a financial contribution,
 - (b) The type of contribution, and
 - (c) The amount of any contribution, and the general provisions that would apply.

Circumstances, Purpose and Amount

Table A2 1 *Circumstances and Purposes of Financial Contributions*

	Circumstance	Purpose	Determination of Amount	Regional Rules Where Financial Contributions May be Applicable
1	Protecting Aquatic Habitats of Indigenous Species and Trout Where the activity for which a resource consent is granted is likely to cause or contribute to adverse effects on any ecosystem values (aquatic habitats of indigenous fish species or trout, spawning areas, or migratory pathways), particularly in watercourses with Aquatic Ecosystem water quality class, and those identified in Schedule 1 of this regional plan.	To restore or enhance aquatic habitats at the site, or to provide environmental compensation by restoring or enhancing aquatic habitat characteristics at another suitable location where avoiding, remedying or mitigating adverse effects at the site is not practicable or effective.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be an amount that is sufficient to restore or enhance aquatic habitats.	LM R4, LM R10, LM R14, LM R16, BW R40, DW R8, Rule 43, WQ R21, WQ R22, BW R36, WL R9
2	Protection of Riparian Vegetation Where the activity for which a resource consent is granted is likely to result in destruction or damage to riparian vegetation or habitats, particularly in areas of Natural State and Aquatic Ecosystem water quality class, urban areas, in actively eroding areas, or in the catchments of lakes, harbours and estuaries.	To offset the loss of vegetation by planting, transplanting or maintaining, new or existing vegetation, either at, or adjacent to, the site concerned, or elsewhere in the same general locality.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be an amount that will be sufficient to offset the loss of riparian vegetation.	LM R4, LM R10, LM R14, LM R16, LM R18, WQ R21, WQ R22, BW R36, WL R9
3	Protection of Wetlands Where the activity for which a resource consent is granted is likely to cause or contribute to adverse effects on any ecosystem, water quality, water quantity, soil conservation or flood mitigation values of a wetland.	To: <ul style="list-style-type: none"> (a) Enhance another suitable wetland of similar habitat where such a wetland is available, (b) Create a new wetland at an appropriate site, or (c) Enhance another part of the wetland that is adversely affected, including if appropriate, cost associated with maintaining the original size of the wetland. 	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), but will be an amount that is sufficient to enhance a significant wetland, enhance part of a wetland, or create a new wetland.	LM R4, LM R10, LM R14, LM R16, DW R8, Rule 43, WQ R21, WQ R22, BW R36, WL R9

	Circumstance	Purpose	Determination of Amount	Regional Rules Where Financial Contributions May be Applicable
4	Protection of the Environment from Stormwater Discharges Where a resource consent is granted for an existing stormwater discharge that does not meet environmental standards in this regional plan, where it is not cost-effective or practicable to upgrade existing stormwater system, and the discharge is likely to cause or contribute to adverse effects on any ecosystem, or water quality of the receiving environment.	To provide on-site or off-site mitigation measures, remediation works in other areas, or other appropriate works, including but not limited to riparian planting, to mitigate the effects of the stormwater discharge.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be an amount that is sufficient to provide mitigation measures and remediation works.	DW R8
5	Protection, Restoration or Enhancement of River and Lake Beds Where the activity for which a resource consent is granted is likely to cause or contribute to adverse effects on the bed or margins of a lake or river.	To mitigate or offset the adverse effects of the activity by protecting, restoring or enhancing river and lake beds, including, but not limited to, maintenance and planting of vegetation, sediment replenishment, erosion protection works, fencing, and including contribution to such measures elsewhere in the same general locality.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be an amount that is sufficient to provide mitigation measures and remediation works in the bed of a river or lake.	LM R4, LM R10, LM 14, LM R16, BW R40, DW R8, Rule 43, WQ R21, WQ R22, BW R36, WL R9
6	Protection of Water Quality from land Use and Discharges of Contaminants to Land Where a point source discharge of contaminants to land, or land use activity is likely to cause or contribute to adverse effects on the surface water quality of the surrounding environment.	To provide the retirement and vegetation of riparian areas, or other suitable measures, that will mitigate the effects of the activity on water quality.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be an amount that is sufficient to mitigate or remedy effects on water quality.	DW R8
7	Protection of Lake Water Quality Where a land use change within the catchment of a lake that is below its TLI (as set in RL O1) results in a net increase in the export of nitrogen or phosphorus from the property, and on-site mitigation can not otherwise be achieved.	To mitigate or offset the increased export of nitrogen or phosphorus from the property by acquiring and retiring production land within the same lake catchment as the property, or other nutrient management measures within the catchment.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and the amount will be determined by the costs to purchase sufficient developed land to offset the increased nitrogen or phosphorus export from the property, or the cost of other nutrient management measures.	RL R5, RL R6 and RL R7

	Circumstance	Purpose	Determination of Amount	Regional Rules Where Financial Contributions May be Applicable
8	General Mitigation Works Where the activity for which a resource consent is granted will cause or contribute to adverse effects on the environment which will not be adequately mitigated by any of the types of contribution described elsewhere in this section.	To provide works on or adjacent to the site for the purpose of offsetting the adverse effects of the activity, including protecting, restoring or enhancing natural and physical resources elsewhere in the same general locality.	The amount of contribution will be determined by reference to the matters set out in the General Provisions section (below), and will be sufficient to provide for positive effects reasonably equivalent to the resource which will be lost, compromised or adversely affected.	LM R4, LM R10, LM 14, LM R16, BW R40, LM R18, DW R8, Rule 40, Rule 43, WQ R21, WQ R22, BW R36, GR R2, GR R4, GR R7, GR R8, GR R10, WL R9

Matters to be considered

In deciding whether or not to impose financial contributions, the types of contribution and their value, the Regional Council will have particular regard to the following matters:

- (a) Financial contributions shall be for the purpose of avoiding, remedying or mitigating adverse effects on natural and physical resources.
- (b) Financial contributions must be used to avoid, remedy or mitigate adverse effects of the same type as those caused or potentially caused by the activity for which consent is sought.
- (c) Preference shall be given to the use of financial contributions at, or close to, the site of the activity for which consent is sought. This shall not prevent the use of financial contributions at other locations when appropriate or agreed between parties to the application.
- (d) Financial contributions will only be required when:
 - (i) The avoidance, remedy or mitigation of adverse effects could not be practically achieved by another condition of consent, or
 - (ii) A financial contribution would be more efficient than another condition of consent in achieving the avoidance, remedy or mitigation of adverse effects, or
 - (iii) A financial contribution is agreed by parties to the application to be the best outcome to avoid, remedy, or mitigate adverse effects on the environment.
 - (iv) The financial contribution is for the purpose of mitigating adverse effects on natural and physical resources.
- (e) An assessment as to whether a financial contribution is appropriate to the activity will be made on a case by case basis.
- (f) Preference will generally be for a financial contribution of money, except where land may be more appropriate.
- (g) Except in relation to (h), the value of the contribution will be the actual and reasonable costs of measures required to offset the residual adverse effects that are unable to be avoided, remedied, or mitigated.
- (h) Where financial contribution is required in relation to the Rotorua Lakes of this regional plan, the value of the contribution will be the actual and reasonable costs of measures required to offset the increased discharge of nitrogen or phosphorus within the lake catchment that is otherwise unable to fully offset the activity.

General Provisions

In imposing a financial contribution, the following general provisions will apply:

- 1 All financial contributions shall be GST inclusive.
- 2 Where the financial contribution is, or includes, a payment of money, the Regional Council may specify in the condition:
 - (a) The amount to be paid by the consent holder or the methods by which the amount of the payment shall be determined;
 - (b) How payment is to be made, including whether payment is to be made by instalments;
 - (c) When payment shall be made;
 - (d) Whether the amount of the payment is to bear interest and, if so, the rate of interest;
 - (e) If the amount of the payment is to be adjusted to take account of inflation and, if so, how the amount is to be adjusted;
 - (f) Whether any penalty is to be imposed for default in payment and, if so, the amount of the penalty or formula by which the penalty is to be calculated.
- 3 Where the financial contribution is, or includes, land, the value of the land shall be determined by a Registered Valuer mutually agreed upon by the Regional Council and the resource consent applicant. In granting a consent, the Regional Council shall give reasons in its decision for its assessment of the value of the land.
- 4 Where the financial contribution is, or includes, land, the Regional Council may specify:
 - (a) The location and the area of the land;
 - (b) When and how the land is to be transferred to, or vested in, the Regional Council.

Appendix 3 – Information to be submitted with Resource Consent Applications

The contents of this appendix were previously included in previous versions of the regional plan as Chapter 11.

A resource consent application must contain sufficient information to allow any person to understand what activity is proposed, and any ancillary information that the consent authority may need to process the application effectively. All resource consent applications must be prepared and lodged in accordance with the procedures and requirements of Section 88 and Schedule 4 to the Act.

However, due to the variety of resource consents that may be applied for, and the variation in scale of likely activities, it is not possible to give a single comprehensive checklist of information required for any application.

The Regional Council has specific consent application forms for a number of activities. Attached to each of these specific application forms are explanatory notes on the preparation of an assessment of effects on the environment. Applicants should use these notes as guidance to what information may be required for any application.

Pursuant to section 92 of the Act, the Regional Council may at any reasonable time before the hearing of an application for a resource consent application, by written notice to an applicant, require further information in respect to the activity for which the application for a resource consent is made.

The Regional Council therefore recommends that consent applicants discuss information requirements with the Regional Council staff prior to lodging a consent application.

General Information

Without limiting the power of the consent authority to require any further information, and without limiting section 88, 92 and Schedule 4 of the Act, resource consent applications for any activity controlled by this regional plan will be required to provide information listed in the Application for a Resource Consent form available from the Regional Council. Specific application forms are also available for other activities that are commonly undertaken in Bay of Plenty region. There are also guidelines to assist resource consent applicants to consult with tangata whenua.

The following sections provide guidance as to the type of information required for specific types of consent applications.

Land and Soil Disturbance Activities

The measures taken to comply with:

<i>Objective</i>	<i>KT O4, KT O5, LM O1, LM O2, LM O3, LM O5, DW O8, KW O9, KW O11</i>
<i>Policy</i>	<i>KT P5, KT P14, KT P15, KT P17, KT P18, KT P20, IM P1, DW P13, DW P16</i>
<i>Method</i>	<i>KT M13, KT M20, KT M21, IM M10, IM M12, DW M25</i>

Applications for the clearance of vegetation by burning must also comply with the requirements of the Operative Bay of Plenty Regional Air Plan.

Rotorua Lakes

The measures taken to comply with:

<i>Objective</i>	<i>IM O1, LM O1, RL O1, IM O3</i>
<i>Policy</i>	<i>IM P1</i>
<i>Method</i>	<i>LM M8, RL M6</i>

Discharges to Water and Land

Discharges of Contaminants to Water

The measures taken to comply with provisions in Discharges of Contaminants or Water to Water, and Discharges of Contaminants to Land in the Discharges to Water and Land section of this regional plan, and Schedule 9.

Discharges of Contaminants to Land

The measures taken to comply with provisions in Discharges of Contaminants or Water to Water, and Discharges of Contaminants to Land in the Discharges to Water and Land section and Land Management section of this regional plan.

Discharges of Water to Water

The measures taken to comply with provisions in Discharges of Contaminants or Water to Water, and Discharges of Contaminants to Land in the Discharges to Water and Land section of this regional plan, and Schedule 9.

Stormwater Discharges

The measures taken to comply with the provisions in Discharge of Stormwater in the Discharges to Water and Land section of this regional plan, and relevant sections of this Appendix.

Remediation of Contaminated Sites

The measures taken to comply with DW R15.

Take and Use of Water

Take and Use of Groundwater and Surface Water

The measures taken to comply with:

<i>Objective</i>	<i>KT O4, KT O5, KT O6, IM O1, 39, 41, 42, 43, 45</i>
<i>Policy</i>	<i>KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, 66, 70, 71, 73, 79, 80</i>
<i>Method</i>	<i>KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12, 166, 167, 169, 170, 172,</i>
<i>Schedule</i>	<i>7</i>

Groundwater Bores

The information listed in Rule 40.

Damming and Diversion of Water

The measures taken to comply with:

Objective KT O4, KT O5, KT O6, IM O1, 42, WQ O12, BW O1, WT O1, WT O3
Policy KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, 65, WQ P32, WQ P34, WQ P35, BW P3, WL P2
Method KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, IM M12

Artificial Control of Lake Levels

The measures taken to comply with:

Objective KT O4, KT O5, KT O6, IM O1, WQ O17
Policy KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, WQ P38, WQ P39, WQ P40
Method KT M13, KT M17, KT M18, KT M20, KT M21, IM M10, WQ M13

Activities in the Beds of Rivers, Streams or Lakes

Activities in the Beds of Rivers, Streams or Lakes

The measures taken to comply with:

Objective KT O4, KT O5, KT O6, IM O1, 46, WQ O12, WQ O13, EW O15
Policy KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, WQ P32, WQ P33, WQ P34, WQ P35, NH P1, NH P2, NH P3, NH P4, WQ P39
Method KT M12, KT M16, KT M17, KT M19, KT M20, IM M6, 157, 158, 161, 173, 175,
Schedule 1, 2, 3

Stock Access and Crossings

The measures taken to comply with the provisions in the Beds of Water Bodies section of this regional plan, and BW R37 and BW R38.

Geothermal Resources

Take and Use of Geothermal Water, Heat or Energy

The measures taken to comply with:

Objective KT O4, KT O5, KT O6, IM O1, WQ O18, WQ O19, BW O4
Policy KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, BW P4, BW P5, BW P7
Method KT M12, KT M16, KT M17, KT M19, KT M20, IM M6, WQ M12, NH M4, NH M5, NH M6, MH M7

Geothermal Bores

The information listed in GR R4, GR R4 or GR R6 whichever is relevant to the proposal.

Damming and Diversion of Geothermal Water

The measures taken to comply with:

Objective *KT O4, KT O5, KT O6, IM O1, WQ O15, WQ O16*
Policy *KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, BW P4, BW P11*
Method *KT M12, KT M16, KT M17, KT M19, KT M20, IM M6,*

Discharge of Geothermal Water

The measures taken to comply with:

Objective *KT O4, KT O5, KT O6, IM O1, IM O2, RL O1, RL O2, IM O3, IM O4, TH O1, RL O3, OH O1, BW O1*
Policy *KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, BW P4, BW P8*
Method *KT M12, KT M16, KT M17, KT M19, KT M20, IM M6,*

Wetlands

The measures taken to comply with:

Objective *KT O4, KT O5, KT O6, IM O1, 46, BW O5*
Policy *KT P5, KT P11, KT P14, KT P15, KT P17, KT P18, KT P19, KT P20, IM P1, WQ P34, BW P17, BW P18, BW P19*
Method *KT M12, KT M16, KT M17, KT M19, KT M20, IM M6,*

Appendix 4 – Anticipated Environmental Results

The contents of this appendix were previously included in previous versions of the regional plan as Chapter 12.

Kaitiakitanga

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga is maintained.	Number of co-management agreements with iwi/hapu.	Plan performance monitoring.	Regional Council records.

Water Quality

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	All monitored river and lake bathing sites meet the Bathing Standard guidelines.	Bacterial levels.	State of the environment.	The Regional Council Bathing Suitability monitoring programme.
2	All rivers, streams and lakes meet their Water Quality Classification.	Dissolved oxygen Ammonia Temperature Clarity Periphyton Bacterial levels Suspended sediment.	State of the environment, compliance and impact monitoring.	NERMN water quality module, and consents and compliance reports.
3	Lakes do not exceed their individual TLI.	TLI. Frequency, location and species of toxic and non-toxic algal blooms, lake 'foams'.	State of the environment.	NERMN water quality and freshwater ecology modules.
4	Harbours, estuaries and the open coast waters meet their Water Quality (as established in the Bay of Plenty Regional Coastal Environment Plan).	Water quality in estuaries, harbours, open coast.	State of the environment.	NERMN water quality module, Bathing Suitability monitoring programme, consents and compliance reports.
5	Mauri of water is maintained or shows ongoing improvement.	Indicators to be developed in relation to Ministry for the Environment - Maori Environmental Performance Indicators programme.	State of the environment - community monitoring.	Regional Council community monitoring programme in relation to Ministry for the Environment - Maori Environmental Performance Indicators Programme.
6	Groundwater quality is maintained or improved where necessary.	Nitrate Evidence of saltwater or geothermal intrusion. Nutrient loading to land and water.	State of the environment Impact monitoring in relation to discharges of contaminants to land.	NERMN groundwater module, and consents and compliance reports.

Soil Resources

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Soil health is maintained.	Acidity or alkalinity of soil. pH soil test Organic matter Change in area susceptible to reduction in soil health. Organic carbon.	State of the environment.	NERMN land sustainability module.
2	Soil intactness and slope stability is maintained.	Incidents of erosion, instability, slips. Change in areas susceptible to hill country erosion. % change in area of slip at selected sites. Change in area susceptible to high country degradation. Change in areas susceptible to agricultural impacts. Bulk density of soil.	State of the environment. Impact monitoring of resource consents. Specific or ongoing investigations in problem areas.	NERMN land sustainability module, and consents and compliance reports.

Water Quantity

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	River and stream flows do not fall below their instream minimum flow requirement as a result of abstraction.	River flow.	State of the environment, compliance and impact monitoring.	NERMN surface hydrology module, and consents and compliance reports.
2	No evidence of aquifer water levels falling as a result of abstraction.	No long-term fall in aquifer water levels as a result of groundwater abstraction.	State of the environment, and impact monitoring.	NERMN groundwater module, and consent impact reports.
3	Flood hazards are avoided or mitigated.	Flood damage reports. Incidence of flooding of lake-side developments in 2% AEP lake level fluctuations. Incidence of activities in the beds of rivers and streams, or in floodways obstructing flood flows.	State of the environment monitoring. Compliance and impact monitoring. Specific investigations in problem areas.	NERMN Surface Hydrology module. Consents and compliance reports. Individual flood investigations and reports to the Regional Council.

Beds of Streams, Rivers and Lakes

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Stability of the banks and beds of rivers, streams and lakes is maintained, while allowing for natural erosion events.	Incidents of erosion and instability. The general condition of the beds and banks of rivers and streams improves to little or minor problems.	State of the environment. Compliance and impact monitoring.	NERMN river and stream channel module.

Geothermal Resources

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	No loss of geothermal surface features or ecologies.	Number and condition of geothermal surface features or ecologies.	State of the environment, compliance and impact monitoring.	NERMN geothermal groundwater module. Consents and compliance reports.

Wetlands

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	The overall extent, connectivity and condition (functions and values) of the region's wetlands are maintained, and where practicable enhanced.	Wetland extent from land cover data. Wetland condition.	State of the environment. Compliance and impact monitoring.	NERMN wetland module.

Ecosystems

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Maintenance or enhancement of aquatic habitats relative to ecotype, and fish migration is not prevented.	MCI (Macro-invertebrate Community Index) Increased number of rivers and streams score 'good' or 'excellent' ecological aspects in the environmental quality index for rivers. Biodiversity (number, abundance and diversity of flora and faunal species). Occurrence of native fish, e.g. Giant Kokopu, Red Finned Bully. Presence of all life-stages of relevant fish species along length of river. Continued existence of	State of the environment, compliance and impact monitoring.	NERMN freshwater ecology module. Consents and compliance reports.

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
		identified spawning sites. Abundance of whitebait and other species by catchment or ecotype.		

Community Awareness of Environmental Issues

	Anticipated Environmental Result	Environmental Performance Indicator	Type of Monitoring	Information Source
1	Increased community awareness of environmental issues.	Percentage of people aware of specific issues.	Plan performance monitoring.	Regional Council attitudes and perceptions survey.

Appendix 5 – Cross Boundary Issues

The contents of this appendix were previously included in previous versions of the regional plan as Chapter 13.

Section 67(1)(h) of the Act requires regional plans to state the processes that will be used to address cross-boundary issues. Such issues may:

- (a) Affect areas or resources across district council boundaries, or
- (b) Affect an area of land, water body or geothermal resource across regional council boundaries, and may relate to a general issue or a specific activity.

The methods specified below will be used to address cross-boundary issues relating to:

- (a) Soil conservation,
- (b) The adverse effects of land use and land management practices on soil and water resources,
- (c) The management of water quality and quantity,
- (d) The management of geothermal resources, especially interconnected fields such as Waimangu,
- (e) Flood hazard mitigation,
- (f) Part 2 of the Act,
- (g) The management of areas of overlapping functions with city and district councils, and the avoidance of conflicting resource management requirements where possible.
- (h) Administrative matters, and
- (i) Any other matters which may be relevant.

The processes identified in this regional plan are consistent with those defined in the Bay of Plenty Regional Policy Statement, Gisborne Regional Policy Statement, Waikato Regional Plan, and the Hawkes Bay Regional Resource Management Plan.

Processes to Address Cross-Boundary Issues

- 1 Identify existing and potential cross-boundary issues through ongoing liaison with neighbouring regional or unitary councils, constituent city or district councils and other resource management agencies. This will be carried out at either a Councillor, Council executive management or specialist staff level. Mechanisms include joint working groups or committees, research projects, investigation programmes, monitoring programmes or other joint activities or approaches as required.

- 2 Consult with all affected parties to resolve cross-boundary issues.

- 3 Develop solutions to cross-boundary issues with neighbouring regional councils and other relevant parties.

The solutions are to be consistent between the regions, but recognise and allow for different methods of implementation, regulatory and policy provisions that may be used.

- 4 Promote a joint approach to the management of resource consent applications with the potential for cross-boundary effects. This may involve consultation with adjacent city or district councils, joint resource consent processing, or joint hearings.

- 5 Use existing regional plans from other regional councils as a base for developing regional plans for Bay of Plenty to seek consistency and avoid duplication of effort whenever possible, while ensuring measures are appropriate and justified in the Bay of Plenty Region.

- 6 Work with neighbouring regional councils, and constituent city or district councils to develop mechanisms to facilitate information sharing between councils.

This includes ensuring environment monitoring data and other information collected by the Regional Council, is provided to relevant parties.

- 7 Advocate and promote a consistent approach between the city council, district councils and regional councils controlling activities that may affect land, water and geothermal resources.

This includes:

- (a) Making submissions on district plans and other regional plans.
- (b) Commenting on relevant district resource consent applications.

An example is management of the Waiotapu/Waimangu geothermal field if the status of the field within the Waikato Region is changed from a protection status.

- 8 Work in conjunction with constituent city or district councils to establish procedures for ensuring efficient resource management processes in areas where there are overlaps in the functions of regional councils and district or city councils under the Act.

This may involve undertaking transfers of functions, powers and duties under section 33 of the Act, where this would result in more efficient or effective resource management processes or outcomes.

- 9 Consider preparing joint resource management plans or strategies with neighbouring regional councils, constituent city or district councils, and other resource management agencies to address specific areas or issues.

Appendix 6 – Plan Review Process

The contents of this appendix were previously included in previous versions of the regional plan as Chapter 14.

The Regional Council must monitor the effectiveness of this regional plan as a means of achieving its objectives and policies under section 67(1)(i) and monitor the environment under section 35(2) of the Act.

The Regional Council will initiate a review of the regional plan no later than ten years from the date on which the regional plan becomes operative. The Regional Council will aim for the continual improvement of regional plan effectiveness through monitoring and review of objectives, policies and rules.

The following methods will be used to gather information for the regional plan review:

- (a) Compile a register of matters that may require reconsideration.
- (b) Monitor the implementation of the regional plan for:
 - (i) Structural and operational faults.
 - (ii) Effectiveness of policies and rules.
 - (iii) Meeting objectives.
 - (iv) Practicality of objectives, policies, rules and other methods.
- (c) Link state of the environment monitoring to performance monitoring of plan objectives, policies, rules and other methods.
- (d) Consultation and feedback from interested parties.
- (e) Surveys of community attitudes and perspectives.
- (f) Monitoring undertaken by other resource management agencies.
- (g) Research results from environmental investigations.
- (h) Records of investigation of environmental damage, enforcement action and pollution hotline complaints.
- (i) Compliance monitoring of consent conditions.
- (j) Impact monitoring of environmental effects of activities.
- (k) State of the environment reporting, including aspects in the Anticipated Environmental Results.

In reviewing this regional plan, the Regional Council will:

- (a) Determine the efficiency and effectiveness of the policies and methods in achieving the objectives.
- (b) Assess the efficiency and effectiveness of the policies and methods in achieving the anticipated environmental outcomes.
- (c) Assess the efficiency and effectiveness of the methods and rules.
- (d) Assess the relevancy of the issues addressed in the regional plan.
- (e) Determine if there are any additional issues that have arisen that require attention in the regional plan review.
- (f) Review the efficiency and effectiveness of voluntary methods for achieving objectives and consider the use of regulatory methods in areas where environmental performance targets have not been met.

In reviewing this regional plan, the Regional Council will consult with neighbouring regional councils, constituent city or district councils, local tangata whenua, key user groups and the regional community in general. Consideration will be given to technological changes, changes to community environmental expectations, and natural environmental changes.