ENVIRONMENT B·O·P

Bay of Plenty Regional Council

Operative
Regional River Gravel Management Plan

Environment B·O·P
P O Box 364
Whakatane
New Zealand

Resource Planning Publication 2001/03
ISSN 1170-9022

REGIONAL RIVER GRAVEL MANAGEMENT PLAN

1 October 2001

Environment B·O·P
Bay of Plenty Regional Council

RESOURCE MANAGEMENT ACT 1991

ENVIRONMENT B·O·P
BAY OF PLENTY REGIONAL COUNCIL

REGIONAL RIVER GRAVEL MANAGEMENT PLAN

It is hereby certified that this is the Regional River Gravel Management Plan approved by resolution of the Council on the 16th day of August 2001.

The Council has further resolved that the Plan shall become operative on the 1st day of October 2001.

The Common Seal of the Bay of Plenty Regional Council was affixed hereto this 16th day of August 2001, in the presence of:

THE BAY OF PLENTY REGIONAL COUNCIL
The Common Seal of

J E Keaney
Chairperson

J A Jones
Chief Executive

READER'S GUIDE

There may be only some parts of this regional plan that you are interested in reading. To find those parts quickly, the following guide gives a brief summary of what each section is about.

Section 1: Introduction: outlines the purpose, aim, scope and reasons for the Regional River Gravel Management Plan.

Section 2: Statutory Framework: identifies matters that Environment B·O·P is required to recognise and provide for in the development of this plan. Duties, restrictions and Regional Council functions are also discussed in this section.

Section 3: Policy and Administrative Framework: provides a background to the hierarchy of policy statements and plans, which were taken into consideration during the development of this regional plan. Also discusses the responsibilities of various agencies and individuals with management functions for river shingle.

Section 4: Background - Gravel Sources and Processes: provides a brief description of river gravel supply and movement, and the reasons why gravel is excavated from rivers.

Section 5: Excavation Levels: describes the effects of over- and under-excavation and establishes the need for regulation of excavation levels.

Section 6: Achieving Minimum Excavation Levels: describes the issues and options relating to the excavation of minimum volumes of gravel necessary for erosion and flood control and other river management purposes.

Section 7: Water Quality: describes the adverse effects that gravel excavation can have on water quality.

Section 8: Natural Hazards: discusses the need for gravel excavation to mitigate the risks arising from flood hazards.

Section 9: Ecosystems and Habitats: discusses the adverse effects that gravel excavation may have on ecosystems and habitats and the way these effects can be mitigated.

Section 10: Cultural and Heritage Values: discusses the adverse effects of gravel excavation on heritage.

Section 11: Management Practice: recognises the need for the inclusion of the interests of all community groups in river gravel management and explores ways of achieving that.

Section 12: Monitoring and Data Collection: describes the different aspects of monitoring and data collection and the need to undertake them.

Section 13: Administrative Charges, Financial Contributions and Bonds: describes administrative charges and the purposes for which financial contributions and bonds may be required from resource consent holders.

Section 14: Objectives, Policies, and Methods: sets out the objectives, policies, and methods of implementation identified for river gravel management.

Section 15: Rules: Sets out the rules needed to control the effects of gravel excavation.

Section 16: Assessment Criteria: sets out the criteria by which Environment B·O·P will assess applications for gravel excavation consents.

Section 17: List of Known Trout Spawning Areas: lists the streams and rivers with known trout spawning areas.

Section 18: Information Required For a Gravel Excavation Consent: sets out the information Environment B·O·P requires to be provided with consent applications.

Section 19: Anticipated Environmental Results: briefly discusses the principal environmental results that are expected to arise from the implementation of this plan.

Section 20: Glossary: aims to provide a working understanding of terms relating to gravel excavation and from the Resource Management Act 1991.

Section 21, Appendix 1: Legislation Governing Gravel Excavation: summarises the various Acts that control excavation of gravel from rivers.

Section 22, Appendix 2: Allocation and Ownership of Gravel: sets out the main points on the question of the allocation and ownership of shingle.

Section 23, Appendix 3: Blanket Licences: contains a copy of the blanket licence issued to the former Bay of Plenty Catchment Board and the former Poverty Bay Catchment Board.

Section 24, Appendix 4: Types of Activities: outlines the activity classes identified by the Resource Management Act 1991.

Section 25, Appendix 5: Relevant Regional Policies and Methods: identifies the policies and methods that are contained in the Regional Policy Statement and other relevant regional plans that are pertinent to gravel excavation.

Section 26, Appendix 6: Iwi Management Plans: lists the known plans and reports prepared by iwi organisations within the region that have relevance to resource management.

TABLE OF CONTENTS

READER'S GUIDE ..... **i**

PART I **1**

1 Introduction **3**
1.1 Citation 3
1.2 Purpose 3
1.3 Reasons for the River Gravel Management Plan 3
1.4 Scope 4
1.5 Meaning of Gravel 5
1.6 Plan Layout 5

2 Statutory Framework **7**
2.1 Introduction 7
2.2 Part II Matters 7
2.2.1 Sustainable Management 7
2.2.2 Matters of National Importance 7
2.2.3 Other Matters 8
2.2.4 Treaty of Waitangi 8
2.3 Part III Duties and Restrictions 8
2.4 Efficiency and Effectiveness 9

3 Policy and Administrative Framework **11**
3.1 Introduction 11
3.2 Planning and Policy Framework 11
3.2.1 National Policy Statements and Orders 11
3.2.2 Regional Policy Statement and Plans 12
3.2.3 Planning Documents Under Other Legislation 13
3.3 Administrative Framework 14
3.4 Responsibilities 14
3.4.1 Individuals 14
3.4.2 Tangata Whenua 14
3.4.3 Environment B·O·P 15
3.4.4 District Councils 15
3.4.5 Ministry of Commerce 17
3.4.6 Department of Survey and Land Information 18
3.4.7 Department of Conservation 18
3.4.8 Eastern Region Fish and Game Council 18
3.4.9 New Zealand Historic Places Trust 19
3.4.10 Cross-Boundary Processes 19

PART II **21**

4 Background **23**
4.1 Gravel Sources and Processes 23
4.2 Coastal Supply 24
4.3 Reasons for Gravel Excavation 25
4.3.1 River Management 25
4.3.2 Commercial Use 28

5 Excavation Levels 29
5.1 Introduction 29
5.2 Issues 29
5.3 Options 30
5.4 Selected Option 30
5.5 Reason 30

6 Achieving Minimum Excavation Levels 31
6.1 Introduction 31
6.2 Issue 31
6.3 Options 31
6.4 Selected Options 32
6.5 Reasons 32

7 Water Quality 33
7.1 Introduction 33
7.2 Issue 33
7.3 Options 34
7.4 Selected Options 34
7.5 Reasons 34

8 Natural Hazards 35
8.1 Introduction 35
8.2 Issues 35
8.3 Options 35
8.4 Selected Option 36
8.5 Reasons 36

9 Ecosystems and Habitats 37
9.1 Introduction 37
9.2 Issues 38
9.3 Options 38
9.4 Selected Options 39
9.5 Reasons 39

10 Cultural and Heritage Values 41
10.1 Introduction 41
10.2 Issues 41
10.3 Options 41
10.4 Selected Options 42
10.5 Reasons 42

11 Management Practice 43
11.1 Introduction 43
11.2 Issue 43
11.3 Options 43
11.4 Selected Options 44
11.5 Reasons 44

12 Monitoring and Data Collection 45
12.1 Introduction 45
12.2 Issues 46
12.3 Options 46
12.4 Selected Options 47
12.5 Reasons 47

13 Administrative Charges, Financial Contributions and Bonds 49
13.1 Administrative Charges 49
13.2 Financial Contributions 49
13.3 Bonds 50
13.4 Options 50
13.5 Selected Option 51
13.6 Reasons 51

PART III 53

14 Objectives, Policies and Methods 55
14.1 Introduction 55
14.2 Objectives 55
14.3 Policies 55
14.4 Methods of Implementation 56

15 Rules 59
15.1 Introduction 59
15.2 Permitted Activities 59
15.3 Discretionary Activities 63

16 Assessment Criteria for Consent Applications 65

17 List of Known Trout Spawning Areas 67

18 Information Required for a Gravel Excavation Consent 69
18.1 Introduction 69
18.2 Requirements 69

19 Anticipated Environmental Results 71

20 Glossary 73

PART IV 79

APPENDICES 79

21 Appendix 1: Legislation Governing Gravel Excavation 81
21.1 Soil Conservation and Rivers Control Act 1941 81
21.2 Land Act l948 81
21.3 Blanket Licences 81
21.4 Crown Minerals Act 1991 82
21.5 Resource Management Act 1991 82
21.6 The National Water Conservation (Motu River) Order 1984 83

22 Appendix 2: Allocation and Ownership of Gravel 85
22.1 Background 85
22.2 Ownership 85

23 Appendix 3: Blanket Licences 87

24 Appendix 4: Types of Activities 91
24.1 Introduction 91
24.2 Permitted Activities 91
24.3 Controlled Activities 91
24.4 Discretionary Activities 92

24.5 Non-complying Activities 92
24.6 Prohibited Activities 92

25 Appendix 5: Relevant Regional Policies and Methods 93

26 Appendix 6: Iwi Management Plans 95

LIST OF FIGURES

Figure 1 Bay of Plenty Region River Gravel Excavation Consent Locations 16

Figure 2 Bay of Plenty Region Broad Gravel Lithologies 26

PART I

INTRODUCTION
STATUTORY FRAMEWORK
POLICY AND ADMINISTRATIVE FRAMEWORK

1 Introduction

1.1 Citation

Para 1 This regional plan may be cited as the Regional River Gravel Management Plan. It has been prepared by the Bay of Plenty Regional Council (Environment B·O·P) to assist it to carry out its functions in order to achieve the purpose of the Resource Management Act 1991.

Para 2 Any reference in this plan to Environment B·O·P shall be read as a reference to the Bay of Plenty Regional Council.

1.2 Purpose

Para 1 Note: This plan does not apply to gravel movement associated with hydroelectric dam operations.

Para 2 The purpose of this plan is to assist Environment B·O·P to carry out its functions in respect of controlling the excavation of gravel from the beds of rivers and for soil conservation; maintenance of water quality; the management of water levels including the avoidance and mitigation of flood hazards; avoiding or mitigating adverse effects on: coastal processes, heritage values and the maintenance and enhancement of instream and riparian values, thereby promoting the sustainable management of natural and physical resources.

Para 3 Sustainable management is defined in section 5 of the Resource Management Act 1991. This is discussed further in section 2.2.

Para 4 Excavation of river gravel can conflict with the maintenance of natural, cultural and recreational values. In the management of the region's rivers conflicts can also arise between the excavation of gravel for economic purposes and the management of river stability by gravel excavation. To overcome as many of these potential conflicts as possible the plan development involved extensive public consultation.

1.3 Reasons for the River Gravel Management Plan

Para 1 Section 65(3) of the Resource Management Act 1991 requires regional councils to consider the desirability or otherwise of preparing a regional plan whenever any of the following circumstances arise or are likely to arise. These are listed in paragraphs (a) to (i) of section 65(3). However, the most relevant paragraphs are:

(a) Any significant conflict between the use, development, or protection of natural and physical resources or the avoidance or mitigation of such conflict:

(b) Any significant need or demand for the protection of natural and physical resources or of any site, feature, place, or area or regional significance:

(c) Any threat from natural hazards or any actual or potential adverse effects of the storage, use, disposal, or transportation of hazardous substance which may be avoided or mitigated:
(d) Any foreseeable demand for or on natural and physical resources:
(e) Any significant concerns of tangata whenua for their cultural heritage in relation to natural and physical resources:
(f) The restoration or enhancement of any natural and physical resources in a deteriorated state or the avoidance or mitigation of any such deterioration:
(g) The implementation of a national policy statement or New Zealand coastal policy statement:
(h) Any use of land or water that has actual or potential adverse effects on soil conservation or air quality or water quality:
(i) Any other significant issue relating to any function of the regional council under this Act.

Para 2 In essence there are three reasons for this plan.

Para 3 The first is the need for gravel to be removed/relocated from riverbeds for flood and erosion control purposes. Gravel originating from upper catchments and riverbanks can cause aggradation of riverbeds, which in turn may divert the river flow at the riverbanks. Where a river runs against easily erodible banks, more gravel is supplied into the river system and the process compounds. Aggradation of the beds may also decrease the capacity of the channel to carry flood flows. This plan is to establish provisions to ensure that gravel removal/relocation necessary for flood and erosion control is undertaken in an environmentally sustainable manner.

Para 4 The second is the demand for construction and roading aggregate. River gravel is an important source of this. However, there is a lack of data on the amounts available for excavation and on the volumes that have been removed. Over-excavation can initiate erosion cycles in riverbeds and their banks. As gravel availability is limited the development and implementation of rational gravel management regimes forms a fundamental objective of this plan.

Para 5 The third reason is that adverse environmental effects may arise from the excavation of gravel. For example, excavation can adversely affect values such as habitat, ecology, amenity and heritage. This plan is to establish controls on gravel excavation so that such effects are avoided, mitigated or remedied.

These reasons are discussed more fully in sections 5-12.

1.4 Scope

Para 1 This plan is limited to the management and control of the effects of the excavation of river gravel within the Bay of Plenty Region excluding the Coastal Marine Area but the effects of gravel management from upstream activities on the coastal marine area are addressed later in this plan. The function of controlling river gravel excavation in the Coastal Marine Area is dealt with in the Proposed Regional Coastal Environment Plan. The boundary of the Coastal Marine Area in relation to rivers is defined in relation to river mouths. In the Bay of Plenty, the river mouths have been defined by agreement between the Minister of Conservation, the regional council, and the appropriate territorial authority, in accordance with section 2(1) of the Resource Management Act 1991. Grid references locating the river mouths have been scheduled in the Proposed Regional

Coastal Environment Plan. In addition, Environment B·O·P 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 the Whakatane office of Environment B·O·P.

Para 2 Activities undertaken outside of the bed of a river may require a consent under the Regional Land Management Plan.

1.5 Meaning of Gravel

Para 1 In this plan, a number of issues regarding excavation of material from the beds of rivers are addressed. This material is commonly termed "metal", "sand", "aggregate" or "shingle". However, other materials including silt, rocks and boulders are also removed. Thus in this plan "gravel" denotes all material collectively except where a specific component is referred to.

Para 2 Gravel is covered by the definition of "Mineral" given in section 2 of the Crown Minerals Act 1991, which includes any *naturally occurring inorganic substance beneath or at the surface of the earth, whether or not under water; and includes all metallic minerals, non-metallic minerals, fuel minerals, precious stones, industrial rocks and building stones, and a prescribed substance within the meaning of the Atomic Energy Act 1945*.

1.6 Plan Layout

Para 1 Sections 5 to 13 that follow deal with the issue's relating to river gravel excavation, outlines options, and identifies the selected option with the principal reason(s). These sections are organised so that:

Sections 5-10 address the resource management issues associated with gravel excavation; and

Sections 11-13 deals with matters which need to be addressed by Environment B·O·P as required under the Resource Management Act 1991.

Para 2 Objectives, policies, methods of implementation and rules that arise from these issues are found in section 14. For the purpose of clarity, these have been grouped together rather than being identified separately, issue by issue in sections 5-13. Although it has been necessary to separate the issues in order to identify the selected option, many of them lead to common or overlapping objectives, and thus to common or overlapping policies and methods.

2 Statutory Framework

2.1 Introduction

Para 1 The principal statute by which the environmental effects of gravel excavation are managed is the Resource Management Act 1991. Other relevant statutes are the Soil Conservation and Rivers Control Act 1941, under which Environment B·O·P undertakes flood control works, and the Crown Minerals Act 1991, which governs the excavation of gravel from Crown owned riverbeds. In this section, parts of these Acts have been quoted for clarity. For any definitive reading of the legislation, published up to date copies of the legislation should be consulted.

2.2 Part II Matters

Para 1 The Resource Management Act 1991 sets out a number of matters that Environment B·O·P is required to recognise and provide for when exercising its functions and powers.

2.2.1 Sustainable Management

Para 1 Section 5(2) of the Resource Management Act 1991 defines sustainable management as:

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 ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

2.2.2 Matters of National Importance

Para 1 Section 6 of the Resource Management Act 1991 lists a number of matters of national importance which all councils must recognise and provide for while promoting the sustainable management of natural and physical resources, as follows:

(a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:

(b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

(c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
(d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

2.2.3 Other Matters

Para 1 As well as the matters of national importance, the Resource Management Act 1991 also lists in section 7 a number of additional matters which all councils must have particular regard to in achieving the purpose of the Resource Management Act 1991. They are as follows:

(a) Kaitiakitanga:
(aa) The ethic of stewardship:
(b) The efficient use and development of natural and physical resources:
(c) The maintenance and enhancement of amenity values:
(d) Intrinsic values of ecosystems:
(e) Recognition and protection of the heritage values of sites, buildings, places, or areas:
(f) Maintenance of enhancement of the quality of the environment:
(g) Any finite characteristics of natural and physical resources:
(h) The protection of the habitat of trout and salmon.

2.2.4 Treaty of Waitangi

Para 1 The Resource Management Act 1991 makes specific reference to the Treaty of Waitangi in section 8:

> *In achieving the purpose of this Act all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).*

2.3 Part III Duties and Restrictions

Para 1 Part III of the Resource Management Act 1991 sets the controls on resource use activities where no regional or district plan is in existence. Part III provides that some activities may proceed unless the activity contravenes a requirement for a resource consent established by a regional plan. Restrictions imposed by this regional plan are as follows:

(a) Restrictions on Certain Uses of Beds of Lakes and Rivers

Section 13 of the Resource Management Act 1991 outlines controls on activities relating to uses of riverbeds. Some of these activities may not be undertaken unless specifically allowed by a rule in a regional plan or by a resource consent (subsection (1) whilst others may occur unless restricted by a rule in a plan (subsection (2)).

(b) Restrictions on Taking of Water

Section 14 of the Resource Management Act 1991 outlines the controls on activities relating to water in general which may not be undertaken unless specifically allowed by a rule in a regional plan or by a resource consent.

(c) Restrictions on Discharges

Section 15 of the Resource Management Act 1991 outlines the controls on activities relating to the discharge of contaminants in general which may not be undertaken unless specifically allowed by a rule in a plan or by a resource consent.

2.4 Efficiency and Effectiveness

Para 1 The process of developing policies and methods of implementation for this regional plan has been done in accordance with the efficiency and effectiveness tests set out in section 32 of the Resource Management Act 1991.

3 Policy and Administrative Framework

3.1 Introduction

Para 1 The Regional River Gravel Management Plan is part of a range of planning documents developed under the Resource Management Act 1991. This plan cannot be inconsistent with the Regional Policy Statement, which in turn cannot be inconsistent with any national policy statements. District plans cannot be inconsistent with any national policy statement, Regional Policy Statement or any regional plan (for matters of regional significance or matters which the regional council has primary responsibility).

3.2 Planning and Policy Framework

3.2.1 National Policy Statements and Orders

Para 1 The Resource Management Act 1991 requires in section 67(2) that this regional plan shall not be inconsistent with any national policy statement. In addition, section 55 of the Resource Management Act 1991 requires Councils to implement any provisions of any national policy statement. The only national policy statement produced to date is the New Zealand Coastal Policy Statement 1994.

3.2.1(a) New Zealand Coastal Policy Statement

Para 1 The New Zealand Coastal Policy Statement was gazetted on 5 May 1994 and therefore has legal standing.

It has been given due consideration in the preparation of this plan. The New Zealand Coastal Policy Statement relates to the coastal environment, which includes the Coastal Marine Area and the land areas on the coast or the open coast environment.

Para 2 While the Regional River Gravel Management Plan does not apply to the Coastal Marine Area, some natural processes may be affected by gravel excavation and may therefore have an effect on the coast or the open coast environment.

3.2.1(b) Motu Water Conservation Order

Para 1 There is a Water Conservation Order on the Motu River and a number of its tributaries (see Section 21.6 Appendix 1). Although this Order was established under the Water and Soil Conservation Act 1967, it is deemed, by way of section 423(1) of the Resource Management Act 1991, to be a Water Conservation Order made on the same terms under section 214. The terms of this Order thus relate to the preservation of the natural state of the water in the river.

Para 2 Of relevance to this Regional River Gravel Management Plan is the fact that the lower boundary of the Order is at the Bridge on State Highway 35. Sections 5(2)(a) and (b) of the Water Conservation Order allows gravel to be excavated only for river maintenance and soil conservation purposes. This effectively prevents

gravel excavation upstream of the State Highway 35 Bridge for purely commercial purposes. (See Figure 1 and section 21.6).

3.2.2 Regional Policy Statement and Plans

Para 1 Environment B·O·P is required by sections 66(2)(a) and 67(2)(c) of the Resource Management Act 1991 to have regard to any proposed or operative Regional Policy Statement and any proposed or operative regional plan in respect of the region. In addition, the Regional River Gravel Management Plan is not to be inconsistent with the Regional Policy Statement.

3.2.2(a) Regional Policy Statement

Para 1 The Bay of Plenty Regional Policy Statement has a number of objectives, policies and methods of implementation relevant to the plan. These have been considered in the preparation of this plan.

Para 2 Policies and methods contained in the Regional Policy Statement that are of relevance to this plan are outlined in Section 25, Appendix 5.

3.2.2(b) Proposed Regional Land Management Plan

Para 1 The Proposed Bay of Plenty Regional Land Management Plan contains Environment B·O·P's objectives, policies and methods of implementation (including rules) pertaining to the management of land in the Region. The provisions of most relevance to gravel excavation relate to stream crossings and activities on riparian land. Riparian land is that land alongside a water body. Although rules in the Proposed Regional Land Management Plan pertaining to riparian land will not affect gravel excavation as such, they may affect ancillary activities such as access tracks to the river and gravel processing sites adjacent to the river.

3.2.2(c) Proposed Regional Coastal Environment Plan

Para 1 This plan encompasses the coastal environment but covers only coastal hazards and natural character in that environment. Nevertheless, it is necessary to ensure there are no conflicts between it and the Regional River Gravel Management Plan.

Para 2 The Proposed Bay of Plenty Regional Coastal Environment Plan contains rules regulating excavation of sand, shell and shingle from the coastal marine area.

3.2.2(d) Proposed Regional Plan for the Tarawera River Catchment

Para 1 The Regional Plan for the Tarawera River Catchment was developed as a catchment based plan to manage the impact of industrial discharges to the lower Tarawera River. The Tarawera River catchment includes Lakes Tarawera, Tikitapu, Rotokakahi, Okataina, Okaro, Okareka and Rotomahana. It is a catchment based plan because the management of the water quality and quantity in the lower river has to be related to other activities in the catchment. The rigorous process used to develop policy in the Tarawera Plan has helped to design parallel in other regional plans.

3.2.2(e) District Plans

Para 1 Under the Resource Management Act 1991, Territorial Authorities are required to prepare district plans which cannot be inconsistent with national policy statements, regional policy statements and any relevant regional plans (for matters of regional

significance or for which the regional council has primary responsibility under Part IV).

Para 2 While regional councils have responsibility in respect of water and the beds of water bodies, district councils have responsibilities for activities on the surface of water bodies and the effects of land use.

3.2.3 Planning Documents Under Other Legislation

Para 1 When developing a regional plan, Environment B·O·P must have regard to management plans and strategies prepared under other Acts. Those of relevance to the Regional River Gravel Management Plan are:

3.2.3(a) Iwi Management Plans

Para 1 There are a number of iwi management plans that are relevant to river gravel management. In general they cover the issues of ownership of resources and the lack of recognition by local government and other agencies of tangata whenua values in relation to those resources. Particular concern is expressed about protecting the mauri of resources and the mana of the tangata whenua. (See Section 26, Appendix 6).

3.2.3(b) Conservation Management Strategies

Para 1 These strategies have been drawn up by the Department of Conservation under the Conservation Act to provide direction to the Department, not only in managing its own estate, but also in its advocacy function. They replace the concept of management planning for each function or piece of land for which the Department is responsible, although individual reserves can have management plans if required.

Para 2 Each conservancy within the department is responsible for drawing up a strategy. The Bay of Plenty Region overlaps two conservancies: Bay of Plenty and East Coast. The Minister of Conservation has approved the strategies for both conservancies. However, because of the close links between river management and the Department's functions, provisions that are likely to be developed in the strategies are important for this plan.

Para 3 With the exception of the Horomanga River, most riverbeds from which gravel is excavated are outside the Department's estate. Thus most of the relevant provisions in the strategies will be those dealing with advocacy for the conservation of natural and historic resources on land not administered by the Department. Provisions include identifying significant aquatic ecosystems and representative landscapes, landforms and geological features requiring protection, and advocacy for the protection of historic resources including waahi tapu.

3.2.3(c) The Sports Fish and Game Management Plan

Para 1 This plan, which is still awaiting the Minister of Conservation's approval, has been developed by the Eastern Region Fish & Game Council to establish objectives and strategies for the protection and enhancement of sports fish and game and their associated habitats, and the interests of anglers and hunters. The plan indicates that the Eastern Region Fish & Game Council intends to advocate for the protection of these values on lands which it currently does not administer. The aspects of most relevance to gravel excavation are the trout fishery and habitat.

3.3 Administrative Framework

Para 1 The sand and shingle components of gravel are two resources that have roading and industrial uses. In the main, shingle is excavated from rivers and sand from the coastal environment, although some sand is excavated from rivers and other inland dune systems. Environment B·O·P has a responsibility to control the adverse affects arising from such excavation. In addition, Environment B·O·P has a more direct interest in excavating gravel for river and flood management. For those rivers where there are major flood control schemes, for example the Rangitaiki, Whakatane, and Waioeka-Otara, planned gravel removal at specific locations is viewed as necessary for the maintenance of channel capacity and integrity of the schemes.

Para 2 Environment B·O·P presently consents gravel excavation from approximately 60 sites, although not all are worked at any one time (Figure 1 indicates the excavation sites for the years up to 1999). The sites are in the eastern Bay of Plenty from the Rangitaiki to the Raukokore Rivers, basically those draining the greywacke ranges. Sites are selected and worked on the basis of need for the material to be removed and on demand. Environment B·O·P does not excavate any gravel itself, but consents commercial operators and district councils.

Para 3 Prior to 1991, the licensing and control of gravel excavation was carried out on a somewhat ad-hoc basis. However, the method of gravel allocation has been reviewed, and over the past few years Environment B·O·P has been altering its management and control of gravel excavation. For example, operational guidelines for operators so that excavation will have less adverse effect on environmental values such as water quality, aquatic habitats, and amenity are being developed (reference 14.4 method 5).

3.4 Responsibilities

Para 1 Sections 3.4.1 to 3.4.10 identify individuals and organisations that have responsibilities in relation to river gravel management. It is important, however, to recognise that there are other agencies that may have relevant responsibilities; for example the owners of utility networks such as gas pipelines and power lines, and other network utility operators such as Transit NZ and Tranz Rail.

3.4.1 Individuals

Para 1 The responsibilities of individuals form an essential part of the management of river systems and their environmental values. This arises from the general duty of care set out in section 17(1) of the Resource Management Act 1991.

Para 2 Individual responsibilities relate to the control of the effects of activities they undertake including for example ensuring that sites for vehicle crossings minimise disturbance to fish spawning, or that operations are carried out so as to minimise silt entering water.

3.4.2 Tangata Whenua

Para 1 Tangata whenua have a significant role in resource management as recognised by the principles of the Treaty of Waitangi, acknowledged in the Resource Management Act 1991, and exercised through kaitiakitanga. For Maori, land, water and air are ‘taonga tukuiho’ of special significance. The tangata whenua,

through their iwi, hapu, or sometimes whanau, are the traditional kaitiaki of these taonga.

Para 2 Maori environmental resource management is based on the integrity and restoration of the mauri of natural resources. It relies on traditional as well as modern knowledge systems, hui and collective implementation by the community beginning at the marae level.

Para 3 The Resource Management Act 1991 identifies the relationship of Maori and their culture and traditions with their ancestral lands and water as being a matter of national importance (section 6(e)). In this instance "ancestral" means something which has been owned by ancestors, although not necessarily still in Maori ownership.

Para 4 The present ownership of land, including riverbeds is sometimes unclear. The more recent Waitangi Tribunal reports have clarified this issue from a tangata whenua perspective. The matter is now before the crown and the courts.

3.4.3 Environment B·O·P

Para 1 As well as resource management functions under the Resource Management Act 1991 (see section 3.2.2 of this plan), Environment B·O·P also has functions derived from the Soil Conservation and Rivers Control Act 1941. However, when operating under this latter Act, Environment B·O·P must also fulfil the requirements of the former. Section 126(2) of the Soil Conservation and Rivers Control Act allows Environment B·O·P to excavate gravel for the purpose of controlling the flow of water, and lessen overflows and erosion of riverbanks. The major river control schemes in the Bay of Plenty were established under this section, and gravel is excavated as one means of maintaining them.

3.4.4 District Councils

Para 1 District Councils are not primarily responsible for controlling activities on the beds of rivers. They are, however, responsible for controlling activities on the surface of rivers. They are also responsible for controlling the effects of activities taking place on land and which may be associated with gravel excavation such as processing. These effects include for example, those relating to noise, heritage (cultural and natural), visual (landscape), amenity values, recreation and public access.

Para 2 Under section 33 of the Resource Management Act 1991, district councils can both transfer and receive transfers of resource management functions. Such transfers are by mutual agreement and require that the body that takes on the function represents the community of interest and has the technical ability to perform the function. For example, Environment B·O·P has transferred to the Rotorua District Council the duties, powers and functions under s.13(1)(a) in respect of any riverbed or lake bed. Similarly, the Western Bay of Plenty has transferred to Environment B·O·P its functions and powers in relation to the control of activities on the surface of all water bodies within the Western Bay of Plenty District Council area.

Para 3 The principal district responsibilities that may be relevant to gravel excavation are:

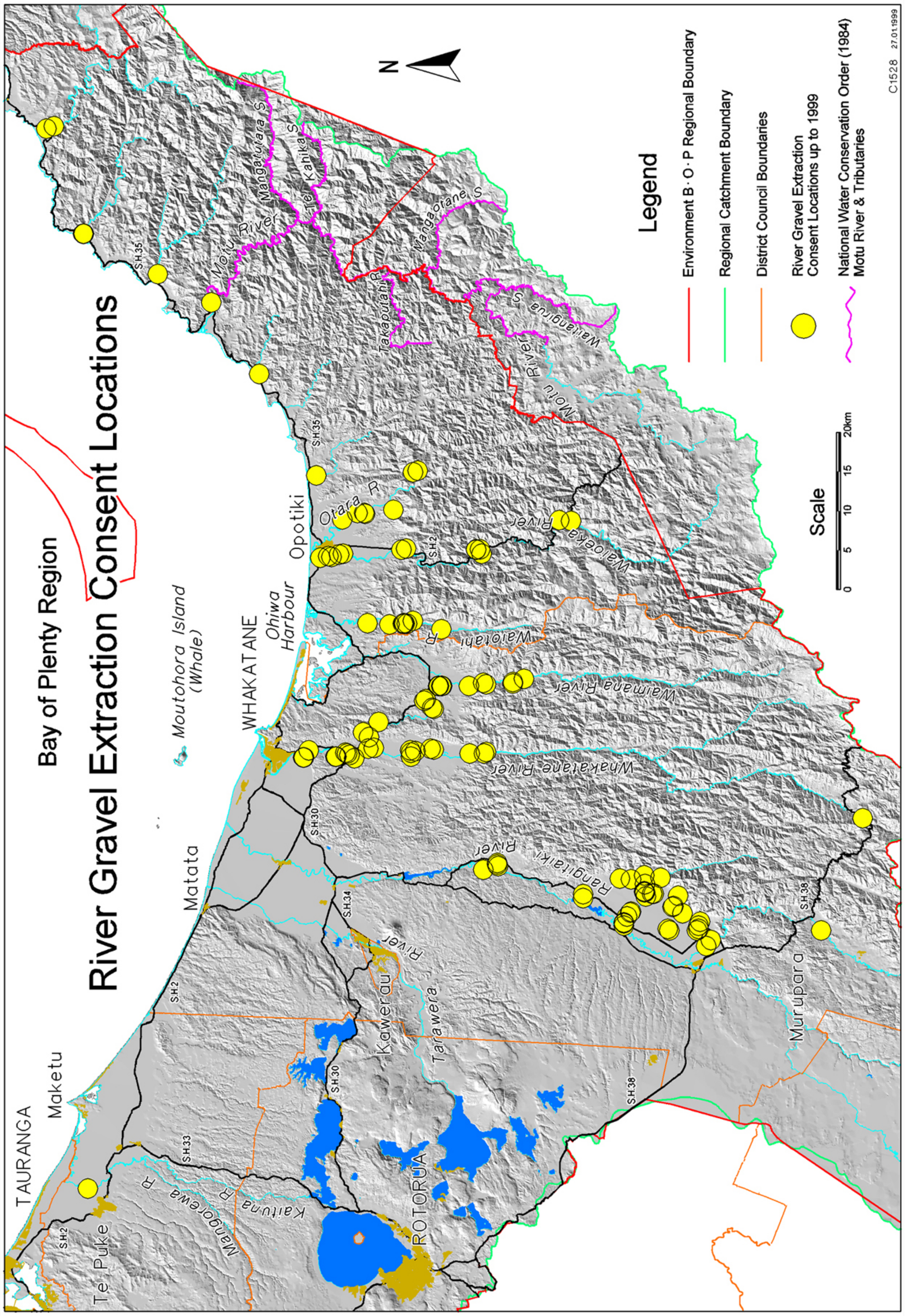
Bay of Plenty Region
River Gravel Extraction Consent Locations
Legend
Environment B · O · P Regional Boundary
Regional Catchment Boundary
District Council Boundaries
River Gravel Extraction Consent Locations up to 1999
National Water Conservation Order (1984) Motu River & Tributaries
Scale
0 5 10 15 20km
C1528 27.01.1999
N
TAURANGA
Maketu
Te Puke
Matata
WHAKATANE
Opotiki
Ohiwa Harbour
Moutohora Island (Whale)
ROTORUA
Murupara
Motu River
Otara R
Waioeka River
Waiotahi R
Waimana River
Whakatane River
Rangitaiki River
Kawerau River
Tarawera
Kaituna R
Mangorewa R
Takaputahi R
Mangatutara S
Kahika S
Mangaotane S
Waitangirua S
S.H.2
S.H.30
S.H.33
S.H.34
S.H.35
S.H.38

Figure 1

3.4.4(a) Activities on the Surface of Rivers

Para 1 Activities, such as jet-boating can impact on gravel excavation or be impacted by gravel excavation. Excavations, river diversions, vehicle crossings, or the creation of wide shallow water channels are activities, which can arise from gravel excavation and which can adversely affect activities on the surface of rivers.

3.4.4(b) Public Access Along Rivers

Para 1 The provision of access along rivers is a matter of national importance and is a responsibility that applies equally to both Environment B·O·P and district councils. However, district councils, as the local authority that controls the effects of the use of land are better able to provide for public access. This is emphasised in the Bay of Plenty Regional Policy Statement (method of implementation 8.3.3(c)(xiv) which encourages district councils to establish programmes to formally protect access to and along the margins of lakes and rivers. District Councils should also be involved through their planning process in making provision for areas for gravel stockpiles and processing.

3.4.4(c) Noise

Para 1 Although Part I of the Second Schedule to the Resource Management Act 1991 allows a regional plan to make provision for the emission of noise arising from gravel excavation, district councils are primarily responsible for the control of the emission of noise and the mitigation of the effects of noise. Noise can arise not just from the excavation operation itself but also from associated activities such as depots, processing sites and truck movements.

3.4.4(d) Structures and Utilities

Para l District Councils are responsible for providing and maintaining several but not all structures such as bridges and utilities for example pipelines across and along rivers. Although some river management, including gravel excavation, is undertaken to protect these assets, too much, too little, or improper excavation can damage them.

Para 2 District Councils control on the subdivision of land adjacent to rivers can affect the future ability to provide for the construction and/or maintenance of flood protection works and gravel excavation activities. (Refer to Environment B·O·P/District Council protocol on the referral of resource consent applications).

3.4.5 Ministry of Commerce

Para 1 Where gravel is in riverbeds owned by the Crown it is a Crown-owned mineral. Where there is private title to the riverbed, gravel may still be Crown-owned depending on when the land title was created. Excavation rights to Crown-owned minerals are governed by the Crown Minerals Act 1991, which is administered by the Ministry of Commerce.

Para 2 The presumption of that Act is that no person may prospect or explore for, or mine, Crown owned minerals unless they hold a permit (s. 8(1)). However, in the case of natural materials in the beds of rivers, lakes or the coastal marine area, there are no restrictions within the Crown Minerals Act unless otherwise specified in a minerals programme. Under that Act the Ministry is responsible for developing Crown Minerals Programmes, which are to allocate rights to Crown-owned minerals and to set a system so that the Crown can obtain a "fair financial return" (s.12).

Para 3 No minerals programmes have yet been drawn up, although shingle is to be subject of such a programme. It is not known whether the Ministry intends to delegate to regional councils the function of controlling shingle management in rivers, and if so, whether the Crown will require a royalty. However, even though a Crown Minerals programme is prepared for shingle, the environmental effects of shingle mining will continue to be controlled through the Resource Management Act 1991 and this plan. See also Appendix 1 in section 21.4.

3.4.6 Department of Survey and Land Information

Para 1 The Department of Survey and Land Information administers the Land Act 1948. Environment B·O·P holds two Blanket Licences issued under section 165 of this Act. These licences authorise Environment B·O·P to control the excavation of material from crown owned riverbeds administered by the Department of Survey and Land Information. These licences exclude areas within the Tauranga Harbour Limits (which include the lower Wairoa River) and those sections of rivers flowing through scenic reserves and Te Urewera National Park. Section 165 of the Land Act, and thus the Blanket Licences, are subservient to the Resource Management Act 1991.

Para 2 The authority given to Environment B·O·P by the Blanket Licences appears to overlap the provisions of the Crown Minerals Act. However, the Blanket Licences are the Crown's authorisation as owner of the land, whilst the Crown Minerals Act covers the Crown's interest in the minerals.

3.4.7 Department of Conservation

Para 1 The Department of Conservation has functional responsibilities under the Conservation Act (1986) covering the conservation of natural and historic resources on land managed by the Department. It also administers the Wildlife Act 1953, which provides protection for indigenous wildlife and the management of indigenous freshwater fish.

Para 2 Of particular relevance to gravel excavation operations is the Department's responsibilities under section 6(a and b) of the Conservation Act and the Fish Passage regulations. This requires it to preserve as far as practicable all indigenous freshwater fisheries, and to protect recreational fisheries and freshwater fish habitats. Also of relevance to gravel excavation is the Department's responsibilities for management of marginal strips as set aside under section 24 of the Conservation Act. The purposes of these strips as set out in the Act include the maintenance of adjacent watercourses and water quality, the maintenance of aquatic life, protection of natural values and enabling public access and recreational use. It also advocates for the protection of natural and historical resources.

Para 3 Associated with each conservancy is a **Conservation Board**. These are independent of the Department, but serviced by them. Their role is primarily one of policy setting and advising the Conservation Authority and the Director-General of Conservation.

3.4.8 Eastern Region Fish and Game Council

Para 1 This Council has the responsibility of managing and enhancing sport fish and game bird resources and for looking after the recreational interests of anglers and hunters. Its responsibilities include managing and enhancing ecosystems and habitats where sports fish and game birds are found. Gravel excavation can

adversely affect trout habitat, particularly their food supply and spawning sites, as well as the pleasantness of angling.

3.4.9 New Zealand Historic Places Trust

Para 1 This Trust has a statutory function to identify, classify, and protect historic places under the Historic Places Act 1993. Historic places can include natural objects as well as archaeological and traditional sites having cultural, traditional, aesthetic, or other values of the past. It is illegal for anyone to destroy, damage, or modify any archaeological site without prior authority from the trust. Rivers were the foci of many historic settlements and transport routes. Rivers are therefore likely to have historic places in their vicinities, which may be at risk from gravel excavation or associated activities such as building access roads.

3.4.10 Cross-Boundary Processes

Para 1 This plan deals with gravel excavation that could occur in areas administered by seven different territorial authorities. It does not affect any area adjoining another region.

Para 2 Issues that arise in future will be dealt with by staff consultation in the first instance or by negotiation with affected Councils.

PART II

BACKGROUND
EXCAVATION LEVELS
ACHIEVING MINIMUM EXCAVATION LEVELS
WATER QUALITY
NATURAL HAZARDS
ECOSYSTEMS AND HABITATS
CULTURAL AND HERITAGE VALUES
MANAGEMENT PRACTICE
MONITORING AND DATA COLLECTION
ADMINISTRATIVE CHARGES, FINANCIAL CONTRIBUTIONS AND BONDS

4 Background

4.1 Gravel Sources and Processes

Para 1 Rivers transport sediment (including gravel) that is produced by erosion in their catchments and channels. The amount of gravel entering a river system depends on the area and topography of the catchment, rock type and geological history, climate (rainfall, wind, temperature variation), physical phenomena such as earthquakes, and vegetative cover.

Para 2 Sooner or later transported gravel is deposited. The distance it is transported before being deposited depends on particle size and water velocity. The coarser material is deposited in the riverbed where the river changes grade, often where it emerges from the hills onto the plains. As the river grade flattens, its velocity decreases, and it deposits progressively finer material. Particles are carried out to the coast where they form an important source of material for coastal processes. During floods, gravel that has been previously deposited can be reworked from the riverbed or eroded from its banks and transported by floodwater further downstream. The transport of gravel through the river system, therefore, is typically complex, as the riverbed itself is a storage area/supply source.

Para 3 As gravel is deposited in the bed and on the inside of river bends, the river erodes its banks and gradually changes course. All rivers change course. Where they flow through hard rock the changes are negligible; where, however, they flow through alluvial deposits the changes can be very large. In these places the river course can change dramatically every time it floods.

Para 4 Some rivers are actively being fed with material from erosion in their catchments. Excessive supply of material to rivers from such erosion will also cause bank erosion. In this situation the beds build up with deposits on the river beaches and the formation of islands. This in turn forces the river flow into the banks which increases their erosion. Thus a cycle of river bank erosion can be initiated by excessive erosion in the catchment.

Para 5 In other rivers there is no measurably significant source of supply and the gravel that exists in the bed has either been there for a very long time or it is being supplied from the bed and banks upstream.

Para 6 If gravel is removed from a riverbed the river will try to re-establish the same grade by eroding the adjacent banks. Unless material is supplied quickly enough from the catchment, the upstream bed will erode. As soon as the bed upstream is lowered more bank erosion will occur and the effect can be transmitted for some distance upstream. Furthermore, when a riverbed is lowered, the channel can carry more water when the river is flowing bank full. The resulting increased energy will make bank erosion more likely. Eventually a reasonable equilibrium may be re-established with the bed once again at its old grade but the river channel may have changed significantly by that time. In the absence of a sufficient supply of gravel from the catchment, equilibrium is likely to be re-established through increased bank erosion.

Para 7 In the Bay of Plenty the major division between sedimentary (greywacke) and volcanic (mainly ignimbrites) lithologies (see Figure 3) results in significantly

different gravel regimes between the western and eastern parts of the region. Catchments in greywacke characteristically have steep slopes. Erosion is predominantly debris avalanches, which supply relatively large size rock material into watercourses. However, the structural characteristics of greywacke (its jointing and, where it was in the vicinity of a fault line, its crush fractures) means that the detritus is easily broken into smaller material by water action. Thus rivers draining greywacke usually have rock or shingle beds and may carry a significant bedload of shingle, sand and silt.

Para 8 Catchments with volcanic lithologies exhibit a different erosion pattern. Although these catchments often have very steep slopes next to watercourses, these slopes are relatively stable. What erosion does occur is usually surface erosion of the overlying volcanic ashes, which, by their nature, supply predominantly sand sized material to the watercourses. Thus rivers draining volcanic lithologies usually have sand beds and their bedload consists of sand.

Para 9 Human use of the land, including rivers, has changed both the rates and the significance of some of the river processes. Changes to the rates can be caused by an alteration (usually a decrease) in the vegetation in the catchment. Decreases in vegetative cover in a river catchment can be brought about by clearance of land from bush into pasture and by animal pests. Such pests decrease the health of the protective bush cover including its undergrowth by browsing and trampling. In addition, the presence of grazing animals may also slow or prevent the revegetation of erosion scars.

Para 10 A decrease in vegetative cover results in less rainfall interception, evaporation, and transpiration. Thus more rain reaches the ground. Removal of the litter commonly found in forests decreases the amount of water that can be stored. Such removal is caused by removing the forest and by grazing the land with stock. In addition, stock trampling compacts soils. These changes lead to more water reaching watercourses during small and medium sized storms. In turn, this increases both erosion of the river banks and the incidence and magnitude of floods.

Para 11 Changes in the significance of river processes can be caused by developments alongside rivers, riverbed channelisation and by increasing use of the water. Rivers normally move about in their valleys by a process of erosion and deposition. This natural process becomes of significance when it adversely impacts on humans. Settlements and investments close to river channels mean that changes in river courses, whether natural or human induced, become a concern. The maintenance of a stable pattern that preserves aquatic habitat and human values is an important requirement. Vegetative cover on river channels may become depleted through a cycle of stock grazing and what may be termed “creeping bank erosion”. During flood events such sites are particularly vulnerable to large-scale bank erosion. Frequently the result is significant loss of the remaining vegetation and adjacent land. This is a particular problem in the middle reaches of several of the region’s major rivers.

4.2 Coastal Supply

Para 1 Rivers supply significant volumes of sand and silt to the coast, which are important elements in the coastal cycles of erosion and deposition. Gravel excavation can affect the natural supply of river gravel to coastal beaches. Decreases in the supply of gravel may cause increased coastal erosion. Because of the dynamics of particular coastal systems such as the existence of long shore drifts, the effects of such interference may not necessarily show in the local environs. Coastal

dynamics are very complex and take time to identify. This may mean that excavation levels established now will require altering in the light of future findings.

Para 2 Where rivers have flood control works such as stopbanking normal deposition of gravel is prevented. Gravel, which in a natural river system would have been deposited over flood plains, now may be channelled down to the coast. If these rivers empty into estuaries this may increase the rate of siltation in these estuaries. In order to protect these estuarine environments gravel may have to be excavated from these and the lower reaches of these rivers.

4.3 Reasons for Gravel Excavation

Para 1 Gravel is excavated from rivers for two reasons: river management and commercial use.

4.3.1 River Management

Para 1 Most river management problems in the Bay of Plenty result from aggradation of the riverbed and/or erosion of the riverbanks. The major economic problems caused by riverbed aggradation and erosion are generally restricted to the flood plains of the major river systems.

Para 2 Rivers aggrade when the supply of gravel to the river exceeds the quantity of gravel being lost from it. While bed aggradation may be localised within some reaches of a river it tends to cause instability and erosion over extended lengths of the bed especially on the flood plains.

Para 3 The options for managing aggrading rivers need to address one or more of the following aspects:

- Reducing gravel supply to the river.
- Relocating gravel from aggrading reaches to those parts of the river that are eroding or degrading.
- Controlling river location, flood flows and bank or bed erosion through the use of flood banks, protection structures and vegetative buffers.
- Increasing gravel transport through the river.
- Removing gravel directly from the river system.

Para 4 Alternatively river managers could decide to do nothing and accept an increased risk of flooding and erosion that carries with it the associated hazard of loss of land, environmental values, other regional assets and possibly human life. Each of these alternative management approaches is discussed in the Section 32 Report.

Para 5 While Environment B·O·P uses a combination of the above approaches to manage the region's rivers gravel excavation from the dry riverbed provides the greatest benefits for the least cost. Consequently this plan was developed to address the issues relating to the management of gravel excavation.

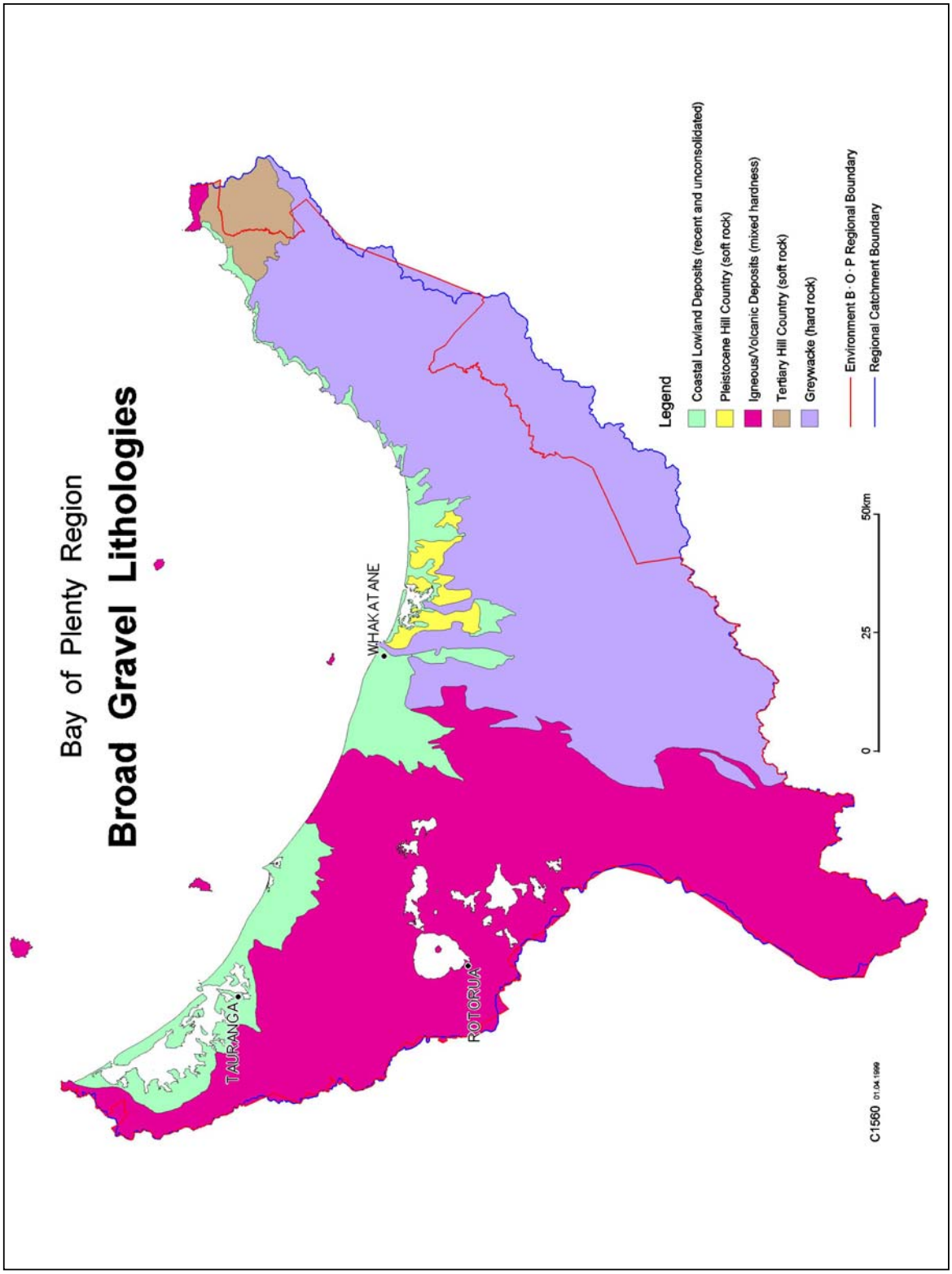
Bay of Plenty Region
Broad Gravel Lithologies
Legend
Coastal Lowland Deposits (recent and unconsolidated)
Pleistocene Hill Country (soft rock)
Igneous/Volcanic Deposits (mixed hardness)
Tertiary Hill Country (soft rock)
Greywacke (hard rock)
Environment B·O·P Regional Boundary
Regional Catchment Boundary
WHAKATANE
TAURANGA
ROTORUA
0
25
50km
C1560 01.04.1999

Figure 2

Para 6 Many lower reaches of rivers are stopbanked which are not only investments in themselves, but also protect other assets such as energy and transport routes, farms, houses and settlements. The integrity of these stopbanks depends on the river channel changes being controlled within a confined route. In addition, structures over rivers, such as bridges, maybe threatened by both bank erosion and by build-up of the bed. Bank erosion can weaken the bridge abutments and gravel build-up reduces the waterway area beneath bridges, both effects causing potential threats to these structures during floods.

Para 7 Changes of significance may also occur through climatic cycles. It is normal for there to be periods of increased storminess and/or increased rainfall, which may last for several years. At these times there maybe increased rates of erosion in both the catchments and the rivers, coupled with increased rates of deposition.

Para 8 In between these periods there may be years or decades where erosion and deposition will be comparatively slight.

Para 9 Both these cycles and changes in river morphology (including its route and meander pattern) whether through natural processes, accelerated processes brought about by changes in its catchment, or through highly modified channelisation and straightening, become important. Some river courses need to be maintained to protect private property and other important assets. Another reason is to reduce the effects of channelisation and infilling of estuaries. As an example land titles have been surveyed and defined whilst a river is in a certain location, and there is a desire to hold the river at that location in perpetuity. Although the degree to which rivers need to be managed can be debated without such management these flood control systems would gradually lose effectiveness and break down and assets would be lost. This can become expensive when river processes are acting to change the course of a river. If river management was to be restricted to a level below that required to maintain flood control or protect assets then the community would have to accept a lower level of protection. The Bay of Plenty Regional Policy Statement advocates that existing flood protection works are to be maintained.

Para 10 Although rivers are managed by a variety of means, removal of excess gravel is seen as one effective method. Where possible Environment B·O·P uses the commercial demand for gravel as a means of excavating the gravel it needs removed for river management purposes. It does this by directing firms that want gravel to specific sites. However, if there is insufficient commercial demand for excess gravel because of quality or access then Environment B·O·P may need to excavate gravel itself at a cost to the river scheme or to the region.

4.3.2 Commercial Use

Para 1 Shingle and sand components of gravel have a commercial value. Rivers are an important source of industrial aggregate for construction and roading. Typically, gravel is excavated for these reasons by aggregate supply firms, district councils for their own roading use and large landholding firms such as forestry companies, also for their own use. In addition, farmers also excavate relatively small quantities of gravel informally for their own use. All these excavators, however, tend to excavate material at places and times that are governed by access, demand and/or economics. Excavation thus tends to be done at sites close to markets and where access is convenient. This can lead to excessive excavation at particular sites rather than a more even excavation along a river.

5 Excavation Levels

5.1 Introduction

Para 1 In a managed river system both over-excavation and under-excavation can cause undesirable effects. Under-excavation decreases the ability of the river channel to carry floods and may cause build up in dams. This results in greater erosion pressure on riverbanks, increased flooding of productive land and the infilling of the beds of any dams. In severe cases the loss of land and the associated assets of stopbanks, bridges and also other utilities such as roads and pipelines etc can be substantial. The disequilibrium resulting from over-excavation can also cause bed erosion and upstream bed degrade which in turn may lead to bridge piers and abutments being undermined. Controlling these effects may require expensive erosion control works being undertaken to protect the existing river, stop banks and other structures.

Para 2 To ensure that the gravel excavation activities are managed in an environmentally sustaining manner so that any adverse effects where possible are avoided or otherwise minimised and any gravel excavation rates and amounts need to be set between the following two levels:

- The minimum excavation level (if any) required to be removed for river management purposes. This includes specifying the quantity, rate and depth of removal at the specific river reaches that need gravel excavated; and

- The maximum amount (if any) that can be removed before any adverse effects become unacceptable. This amount also needs to specify the quantity, rate and depth of excavation, for each specific beach location. The maximum amount can be zero when gravel supply is less than natural loss to the river system.

Para 3 The amount of gravel needing to be excavated from a particular river reach for river management purposes, or the maximum amount available for commercial excavation, depends on the amount being transported by the river and deposited in the reach. In some years no gravel at all will be deposited in a particular reach, in others there may be a significant amount. Specific site excavation rates may need to be reviewed after significant flood events.

Para 4 The effective regulation and monitoring of gravel excavation activities through the systematic collection of measurements of the trends in bed levels, gravel deposition and excavation rate data over time is essential for setting maximum and minimum excavation rates. These are addressed in section 13.

5.2 Issues

The issues relating to gravel excavation are:

(i) Under-excavation of gravel resulting in bed aggradation reduces channel flood capacity and adversely effects productive farmland, stopbanks, riverbed stability, structures and other instream assets and values.

(ii) Over-excavation of gravel causing channel instability and adversely affecting aquatic and riparian ecosystems and habitats.

(iii) Excessive removal of gravel from a river aggravating coastal erosion on the down drift side of a river mouth.

Objectives, policies and methods relating to excavation are given in section 14.

5.3 Options

(i) Do nothing. This option is likely to result in over-excavation at sites easily accessed and close to markets and under-excavation at sites, which are less accessible and economic. Significant destabilisation of natural river processes is likely with consequent severe adverse effects from bank and bed erosion, combined with excessive localised aggradation is likely to produce aggravated erosion, structural flooding, asset damage and disruption of instream habitat and other river values.

(ii) To regulate gravel excavation by establishing maximum and minimum excavation levels of all relevant river stretches so that the advantages of controlling bed aggradation are achieved while avoiding, minimising or remediating the adverse effects of excavation. This option seeks to balance excavation rates with gravel supply.

(iii) Prohibit the excavation of all gravel.

5.4 Selected Option

Para 1 The preferred option is option (ii): To regulate excavation by establishing maximum and minimum excavation levels for all relevant river stretches so that the advantages of controlling bed aggradation are achieved while avoiding, minimising or remediating the adverse effects of excavation. This option seeks to balance excavation rates with gravel supply and maintains riverbed levels so that adverse effects of erosion are avoided, remedied or mitigated, but also achieve adequate flood and erosion control.

5.5 Reason

Para 1 Option (ii) was selected to safeguard against over or under-excavation of river sections which in turn should increase river bank stability and assist in protecting the integrity and effectiveness of the flood control system. This option also offers the greatest protection of instream values and assets. These outcomes will not be achieved by selecting either of the other options.

6 Achieving Minimum Excavation Levels

6.1 Introduction

Para 1 This section deals with achieving the minimum level of excavation required to maintain the desired levels of flood and erosion control and drainage. Defining the amounts that need to be removed from particular reaches of rivers is a technical matter involving monitoring, data collection, and analysis and is addressed in Section 12.

Para 2 Environment B·O·P uses the commercial demand for sand and shingle as a means of removing the gravel it requires excavated. It does this by licensing others to remove it. However in some sites, for example the Otara River, the quality of the gravel is such that it has little commercial value. In these situations Environment B·O·P is faced with having to excavate and stockpile the gravel itself at its own cost. There are other streams, e.g. the Mangamate and Ruarepuae, where it is having difficulty getting the necessary gravel excavated commercially because of access problems.

6.2 Issues

(i) The significant costs incurred by gravel removal for flood, erosion control and drainage purposes.

(ii) Difficulty of access to remove gravel for some river reaches.

Objectives, policies and methods relating to achieving the desired excavation are given in section 14.

6.3 Options

(i) Environment B·O·P could rely on commercial operators. This is the current situation and results in Environment B·O·P's objectives being met in most places at a minimum of expense to the Councils' ratepayers. However, in some p1aces because of access, distance, or material type, Environment B·O·P's objectives may not be met.

(ii) Environment B·O·P could undertake all gravel excavation required for river management itself. It would meet all of its river management objectives, but at a cost including the cost of storage. However this cost could be largely offset by sale of the excavated gravel.

(iii) Require operators to take a proportion of their gravel allocation from sites that are less desirable commercially, but which need gravel removed for river management or environmental purposes. This option would assist Environment B·O·P in achieving minimum excavation goals, but would incur additional work supervision and cost to ratepayers.

6.4 Selected Options

Para 1 While option (i) is preferred options (ii) and (iii) will also be needed to ensure that all river management objectives are met.

6.5 Reasons

Para 1 While option (i) would meet Environment B·O·P's objectives in most situations, it may be necessary to pursue options (ii) and (iii) in areas where access is difficult or where excavation costs are excessive. In these circumstances options (ii) and (iii) may be the only viable alternatives. Therefore a combination of all three options may be needed to maintain the integrity of the flood control system.

7 Water Quality

7.1 Introduction

Para 1 Gravel excavation operations necessarily take place in or in close proximity to flowing water. Some operations, such as gaining access from one side of a riverbed to the other will require some machinery movement in the water itself. Such activities have a greater potential to degrade water quality, through sediment generation, than those carried out away from flowing water. Sediment affects the appearance of water, and degrades it as a source of supply for domestic, industrial or stock use. In addition, sediment adversely affects aquatic habitats and ecologies. There is also a risk of fuel and oil spillage from machinery operations, which adversely effects water quality.

Para 2 The effects of fuel and oil spillage can be minimised or eliminated by requiring all maintenance and fuelling to take place away from the rivers themselves and the removal of all waste oil from the bed and berm area. The discharge of sediment is more difficult to control, and the situation is different on the rivers with exposed beds and those where the beds are covered with water all the time. Rivers in greywacke lithology generally have parts of their beds exposed during normal and low flows. In these rivers it is practicable to require excavation to be undertaken only on these exposed parts of the beds. Rivers in the volcanic lithologies, however, do not normally have exposed beds. Thus any excavation will necessarily have to be done in flowing water.

Para 3 Even where gravel excavation is restricted to the dry beaches some access may be required across the stream or river channel because of other access limitations. In these situations the discharge of sediment can be minimised by carefully siting the crossing location and by minimising the number of crossings and the vehicle speed through water.

Para 4 When excavation is undertaken in flowing water, water quality can be adversely affected. For example, in a survey of water clarity, resulting from instream excavations of gravel in the Oreti River (Southland)[1], the concentration of suspended solids just downstream of the excavation was around 100 mg 1^{-1} and the turbidity around 50 NTU. In contrast, the respective measurements 500 m to 3.4 km downstream were 8-14 mg 1^{-1} and 10-19 NTU[2].

7.2 Issue

The impact of gravel excavation operations on water quality.

Objectives, policies and methods relating to water quality are given in section 14.

[1] M.f.E (1994): **Water Quality Guidelines No. 2 – Guidelines for the Management of Water Colour and Clarity.** Ministry for the Environment, Wellington. June 1994.

[2] NTU: Nephelometric Turbidity Unit

7.3 Options

(i) Do nothing.

(ii) To control gravel excavation operations so that adverse effects on water quality are avoided, remedied or mitigated. This can be achieved by a combination of guidelines, rules and standards.

(iii) To promote the excavation of gravel from the dry areas of the riverbed.

7.4 Selected Options

Para 1 The selected options, in order of preference, are (iii) and (ii): These options should achieve river excavation goals in a manner that avoids, remedies or mitigates any adverse effect of these activities on water quality. These options include a combination of rules, standards and guidelines.

7.5 Reasons

Para 1 The Resource Management Act 1991 precludes the do nothing option as it requires consents for activities in the beds of rivers unless permitted by a rule in a regional plan. The preferred options should meet both the purpose of the Resource Management Act 1991 and the desired river management objectives with minimal adverse effect generation.

8 Natural Hazards

8.1 Introduction

Para 1 Over past geological ages rivers have meandered across outflow areas building flood plains by depositing gravel and soil material eroded from the surrounding catchment areas. People have occupied these flood plains because they are more fertile and conflicts have arisen between the natural flood plain building processes and the farming and housing needs of people. The result is periodic flood damage to farmland and human infrastructure. Gravel excavation from rivers is a method of mitigating the risks arising from flooding and bank erosion. Flooding causes risks to lives, property (including structures and transport routes) and stock. Bank erosion causes loss of land and risk of damage to structures such as bridge abutments and stopbanks. In the context of this section, a natural hazard refers to the damage caused by flooding, siltation and bank erosion.

Para 2 As gravel accumulates in riverbeds the amount of water that can be carried by the river during and after a rainfall event is lessened. This leads to an increase in flood risk. Thus accumulated gravel needs to be excavated to ensure that riverbeds can continue to carry flood flows and to reduce bank erosion.

Para 3 River bank erosion is initiated or aggravated when river flows are forced into the banks. This happens especially at times of high flows when beaches, bars or islands of gravel restrict the flow and force it into the banks. Excavating this accumulated gravel may therefore lessen riverbank erosion. However, over-excavation can also increase the incidence of bank erosion by undercutting. To avoid these effects gravel excavation from rivers needs to be regulated to reduce flood hazard.

Para 4 Thus gravel excavation from rivers will need to be controlled by Environment B·O·P to reduce the risk of loss or damage from the effects of natural hazards.

8.2 Issues

The issues relating to natural hazards are:

(i) Increased risk of adverse effects from natural hazards arising from both over and under-excavation of gravel.
(ii) Increased risk of bank erosion and flooding from excessive gravel build-up.
(iii) Coastal erosion processes aggravated by over-excavation of gravel.

Objectives, policies and methods in relation to natural hazards are given in section 14.

8.3 Options

(i) To not undertake gravel excavation.

(ii) To balance gravel excavation with gravel supply so that river flood flow capacity is maintained and riverbank erosion is minimised.

(iii) Increase flood flow capacities by undertaking large scale gravel excavation operations irrespective of the effects on bank erosion.

8.4 Selected Option

Para 1 The selected option is option (ii): To balance gravel excavation with gravel supply so that river flood flow capacity is maintained and riverbank erosion is minimised.

8.5 Reasons

Para 1 As river systems are dynamic, a balanced gravel excavation regime is required for each one to ensure they can carry their designed flood flows with minimum hazard risk or bank erosion. Monitoring the effects of the excavation regimes is essential to allow for finer tuning of the gravel excavation and flood capacity targets.

9 Ecosystems and Habitats

9.1 Introduction

Para l

Historically, gravel excavation has taken place with little consideration of the impacts upon aquatic ecosystems. Concern has been expressed about the effects of gravel excavation on trout habitat and trout fishing, and on indigenous fish. These impacts arise from modification of in-stream habitat and loss of shallow braided areas important for some species and life stages, loss of riparian margins and removal of in-steam cover. Increased turbidity also has adverse effects.

Para 2

The Resource Management Act 1991 identifies a number of environmental matters, some of which are of national importance, which must be recognised and provided for by Environment B·O·P. The Act also identifies other matters of importance to which it must have "particular regard". The former matters include protection of significant indigenous vegetation and habitats, and the latter include ecosystems and trout habitats.

Para 3

Many of the rivers or river sites where gravel excavation takes place are highly modified, often channelised and altered for flood control purposes. Natural characteristics that provide habitats, such as shrubby riparian vegetation, and bed and bank roughness, conflict with the management of rivers as flood channels. As a consequence, the most poorly represented ecosystems in the Bay of Plenty are lowland riverine systems. Excavation for flood control is also undertaken in upstream reaches of rivers. Many of these are significant spawning and rearing areas for native fish and trout. The sensitivity of these areas is such that excavation can only be justified where there is a continued need for gravel removal for flood control purposes.

Para 4

While the environmental effects of gravel excavation tend to be localised they can extend downstream if very large quantities or inappropriate excavation practices are used. In order to provide minimum protection for ecological values, gravel excavation needs to be carried out in an appropriate manner, i.e. at a rate where the natural replenishment of gravel (input) is able to "keep up" with its rate of removal (output).

Para 5

The adverse effects of gravel excavation can be cumulative and can impact on freshwater habitats, fish spawning and migration. Sedimentation generation from excavation is also a concern. Over-excavation has the potential to alter meander patterns and hence the run-riffle-pool structure of rivers. This coupled with changes in the natural gravel sorting regime, may render spawning areas unsuitable for fish such as trout which have very specific requirements with regards to gravel size, current velocity and the percentage of fines present in the substrate. For these reasons gravel excavation should be discouraged or stringently controlled where significant fish spawning areas have been identified.

Para 6

Ryan (1991)[3] gives a review of the effects of sediment on New Zealand streams and rivers. Increases in the concentration of sediment were found to reduce the

[3] Ryan P.A. (1991): **Environmental Effects of Sediment on NZ Streams: A Review.** *NZ J Marine and Freshwater Research.* 25:2 (pp 207-222).

growth of aquatic plants by a number of mechanisms including smothering, reductions in light penetration and abrasion. It has been found that the quality and abundance of invertebrate communities is reduced and that there is an increased tendency of invertebrates to leave their habitat as suspended sediment concentrations increase. A number of impacts upon fish relate to reductions in the foraging efficiency of visual feeders and, in severe cases, direct clogging of the gills of sensitive species.

Para 7 Given appropriate operational management, significant increases in suspended sediment should not occur during the process of gravel excavation itself. Adverse effects are more likely to occur after long periods of excavation during low river flows. Subsequent flooding to the full bank width may result in localised scouring. During such events it is unknown whether the suspended sediment at the working site is any greater than 'natural' suspension due to flooding processes.

Para 8 Environment B·O·P will need to work with the excavation industry, tangata whenua, Department of Conservation and the Eastern Region Fish and Game Council to identify significant aquatic habitats that need to be protected, enhanced or restored. It is unlikely that rivers flowing through major floodplains could have more than limited habitat remediation. Other rivers, such as the lower Wairoa, the Haparapara, Kereu and Horomanga Rivers are candidates for general rehabilitation. The latter four rivers have gravel excavation sites and are known to provide significant habitat for trout and/or native fish.

9.2 Issues

Para 1 The impact of excavation operations on:

(i) Diversity of in-stream habitat for fish and other aquatic life.
(ii) Fish spawning habitat through alteration of meander patterns and the run-riffle-pool structure of rivers.
(iii) Suspended sediment load and sequent effects on spawning sites, fish migration and a reduction of aquatic plants.

Objectives, policies and methods relating to ecosystems and habitats are given in section 14.

9.3 Options

(i) Do nothing. This is not a viable alternative because of the requirements of the Resource Management Act 1991. However, if no specific provisions are made then there is likely to be a gradual deterioration of habitats and indigenous flora and fauna.

(ii) Work with relevant organisations[4] to identify significant in-stream habitats that need to be retained or remedied where gravel is, or has the potential to be, excavated.

(iii) Set conditions in consultation with the relevant organisations[4] to protect values or sites from the adverse effects of gravel excavation. These can be

[4] The relevant organisations are: district councils, Department of Conservation, Eastern Region Fish and Game Council, tangata whenua and the excavation industry.

either standard conditions on all operations or specific conditions attached to individual consents.

(iv) Develop standards and operational guidelines in consultation with the relevant organisations[4], to assist in protecting environmental values during gravel excavation operations and that this will be commenced within 12 months of the date of public notification of this councils decisions on submissions. .

(v) Implement remediation programmes with funding coming from users through a mitigation charge.

(vi) Bonds may be applied when there is a reasonable possibility of non-performance of conditions, (e.g. where there is a history of non-compliance by the applicant) and/or a likelihood of adverse effects because of the nature of the operation (e.g. large scale works on critical sites or works which extend over a long period).

9.4 Selected Options

Para 1 Environment B·O·P has selected a combination of options (ii), (iii), (iv), (v) and (vi).

9.5 Reasons

Para 1 Environment B·O·P believes that the best way of achieving excellence in environmental management is through promotion of desirable effects combined with restriction of undesirable effects. Promotion is achieved by developing guidelines with the excavation industry and other relevant organisations that take into account environmental matters as well as by rewarding operators that take good environmental care. Restrictions on undesirable effects are achieved by setting protective conditions on operations, guided by policy and rules in the plan.

10 Cultural and Heritage Values

10.1 Introduction

Para 1 Cultural and heritage values include features and traditions that are considered important by people and communities. Fundamental to the protection of these values is the understanding that resources contribute directly to the establishment of connections between people and their surroundings. Rivers are also important landscape features, and are valued for active and passive recreation such as fishing, swimming, and boating. Some rivers, or some sections of some rivers, are likely to be regionally significant for their cultural and heritage values.

Para 2 Most rivers, as well as their immediate environs, have been heavily modified. Even so, they are important landscape components, and even modified vegetation provides natural character; neither the landscape nor its vegetation has to be indigenous or untouched to be significant. Rivers, their ecologies and their riparian and catchment environments form a continuum that together can have cultural and heritage significance. Activities affecting any one part can affect all parts. The Resource Management Act 1991 requires Environment B·O·P to provide for the preservation of the natural character of rivers and their margins, and the protection of outstanding, natural features and landscapes.

Para 3 Gravel excavation and other river works can interfere with the heritage value of rivers by altering their character. Such interference can have adverse effects such as degrading their amenity values for recreation, and by degrading their mauri.

Para 4 Environment B·O·P needs to address the possibilities of avoiding, remedying and mitigating adverse effects on cultural and heritage values and where practicable enhancing positive or beneficial effects. In either case the community affected should be consulted.

10.2 Issues

Para 1 The issues relating to heritage sites/values are:

(i) The impact gravel excavation on sites and values having cultural and heritage significance.
(ii) The need to recognise and protect cultural and heritage sites and values.

(iii) The lack of a register of sites that could be adversely affected by gravel excavation activities and that have cultural or heritage significance.

Objectives, policies and methods to provide for heritage are given in Section 14.

10.3 Options

(i) Do nothing.

(ii) Environment B·O·P, in conjunction with relevant organisations[5] will assess the cultural and heritage values associated with the region's rivers and will develop a register of sites. .

(iii) Environment B·O·P can work with iwi authorities and relevant organisations[5] in setting conditions on operations so that cultural and heritage values are taken into account.

(iv) Ensure applicants have assessed the cultural and heritage values at the site.

10.4 Selected Options

Para 1 Options (ii), (iii) and (iv) are selected as these will need to be implemented to adequately identify and ensure that cultural and heritage values are taken into full consideration.

Para 2 The implementation of these options will be commenced within 12 months of the date of publication of the Council's decisions on submissions.

10.5 Reasons

Para 1 Doing nothing is not a viable alternative because of the requirements of the Resource Management Act 1991. However, if no specific provisions are made then heritage values will continue to be in danger of destruction or interference during gravel excavation. Options (ii), (iii) and (iv) provide some certainty to operators and the public.

[5] The relevant organisations are: district councils, Department of Conservation, Eastern Region Fish and Game Council, tangata whenua, and the Historic Places Trust.

11 Management Practice

11.1 Introduction

Para 1 Gravel management practice should recognise and provide for the different identities, practices and values within and between communities. It needs to be sensitive to the principles of the Treaty of Waitangi. Environment B·O·P's objectives and implementation methods should be such that both partners of the Treaty can identify with them. In addition, there are a number of community sectors with interests in gravel excavation such as conservation groups, farmers, and the excavation industry itself.

Para 2 The responsibilities of the various agencies with statutory functions for riverbed management also need to be clarified. There are a number of agencies with responsibilities that impact on the management of gravel. These agencies have been identified elsewhere in this plan (see section 3.4).

Para 3 Some of these agencies have responsibilities that overlap with those of Environment B·O·P. An example is district councils having control of activities on the surface of rivers whilst Environment B·O·P has control of activities on the bed of rivers. In these cases, in order to streamline control and consenting functions, respective powers can be transferred between agencies.

Para 4 However, functions, duties, or powers given under other Acts (such as the Soil Conservation and Rivers Control Act 1941), cannot be transferred from Environment B·O·P to districts. Thus Environment B·O·P could transfer the function, given under the Resource Management Act 1991, of controlling the environmental effects of gravel excavation, but could not transfer its river management functions derived from the Soil Conservation and Rivers Control Act 1941.

11.2 Issue

Para 1 Arbitrary administrative boundaries and ineffective consultation can obstruct the purpose of the Resource Management Act 1991, namely sustainable management.

Para 2 Objectives, policies and methods relating to management practice are given in section 14.

11.3 Options

(i) Retain the status quo. This requires consultation with each relevant authority for every site and application.

(ii) Environment B·O·P can establish mechanisms within this regional plan to ensure that as many of the relevant organisations[6] interests as possible are addressed through consultation prior to the formal processing of consents.

(iii) Transfer of Powers. With some exceptions Environment B·O·P can transfer any of its functions, duties, or powers given under the Resource Management Act 1991, to another public authority. In this case a public authority includes any local authority (such as a District Council), an iwi authority, a Government department, or statutory authority such as the Eastern Region Fish and Game Council.

Environment B·O·P could also accept the transfer of a district function (for example the control of activities on the surface, of rivers). This would enable the possible conflicts between users of the river surface and gravel excavation operations to be addressed within Environment B·O·P. Such a transfer has been accepted from Tauranga District Council and Western Bay of Plenty District Council.

11.4 Selected Options

Para 1 Options (ii) and (iii) are selected in order to recognise and address the interests of other organisations. Transfers of powers and functions can also address the interests of parties. Such transfers need to be agreed by all. The options selected in other sections of this plan also reflect the interests of other authorities.

11.5 Reasons

Para 1 Retaining the status quo means that applications can take time to process. Each authority or individual consulted needs time to respond. In some cases this is a major burden. Environment B·O·P wants to take cognisance of as many interests as possible and the best method is through the planning process. The selected options build on established protocols, mechanisms and databases and should generate further efficiencies in consent processing. It will also allow additional databases to be developed for engineering, environmental and culturally sensitive data. By providing mechanism for more effective consultation, Environment B·O·P is ensuring that the legitimate interests of all stakeholders and effected parties are taken into account when deciding on gravel excavation consent applications. The selected options also allow further consideration to be given to the transfer of powers. This may help remove unnecessary consent duplication between district and regional councils and allow tangata whenua greater involvement in the consenting decision making process.

[6] The relevant organisations are: district councils, Department of Conservation, Eastern Region Fish and Game Council, tangata whenua and the excavation industry.

12 Monitoring and Data Collection

12.1 Introduction

Para 1 Monitoring consists of 4 components:

- **State of the Environment** monitoring requiring the monitoring of conditions, and trends associated with the quality and quantity of natural resources and the environment. Environment B·O·P undertakes this using NERMN - a natural environmental regional monitoring network.

- **Impact Monitoring** measures the effects of specific activities on the environment. This is the responsibility of Environment B·O·P, although major consent holders also have a role in monitoring the effects of their activities on the environment.

- **Compliance Monitoring** of resource consents is carried out to ensure that conditions attached to a consent are being met. Self monitoring is also normally required with Environment B·O·P's compliance monitoring largely being an audit role.

- **Performance Monitoring** measures whether Environment B·O·P is achieving the desired outcomes of objectives and policies in a cost-effective way.

Para 2 To date the major emphasis of monitoring programmes have been focussed on supplying data for river management modelling purposes and for broad scale water quality assessment. The focus is currently changing towards a greater assessment of the effects on the wider environment, including effects on aquatic habitats and riparian margins. While the broader aspects will be identified under the NERMN programme the detailed effects will need to be identified through appropriate consent compliance monitoring. Suitable compliance monitoring conditions will therefore need to be attached to new gravel excavation consents.

Para 3 In general, monitoring and data collection relating to gravel deposition and excavation is based on surveying river cross-sections and returns from gravel excavators. Little effective monitoring has taken place in the past, as resurveying river cross-sections has been intermittent. Prudent river management and the Resource Management Act 1991 require an adequate understanding of river processes including the movement of gravel and the effects of excavation.

Para 4 There are essentially two ways of monitoring gravel excavation. The first involves surveying cross-sections of the river after every large flood, or more suitably at regular intervals. It is then a matter of determining how much material has been deposited. The main advantage of this approach is that the available amount can be assessed so that less reliance is placed on the accuracy of the operator's excavation records.

Para 5 The second method of monitoring involves keeping accurate records of the amount of gravel removed and surveying the river cross-sections less frequently. Over a sufficiently long period it is possible to determine the average annual rate of deposition. However, average deposition does not occur every year; indeed, many

years may pass in which virtually no deposition at a particular site occurs. The main disadvantage of this system is that it is dependent on the accuracy of the operator's excavation records.

Para 6 Accurate monitoring also requires reliable records of the quantity of gravel removed. Although operators provide information on the amounts they excavate, this information is not identified by particular sites. This is necessary to provide adequate monitoring. In the past it was suspected that considerable amounts of gravel may have been removed without a consent, and thus with no record. Now Environment B·O·P requires returns to be filed quarterly, and they are checked against consent conditions and locations. Currently operators records are kept in terms of gravel sold or after it has been screened. However, for river management purposes the relevant measure is the total amount removed from the river, not just the commercial components of the gravel removed. For this reason Environment B·O·P will require operators to keep accurate records of the volumes of gravel removed from the river.

Para 7 Environment B·O·P's preference is to use a combination of methods whereby a comprehensive system of river cross-sections is established and regularly resurveyed, and these results checked against gravel excavation records.

Para 8 Environment B·O·P is at present setting up a regular monitoring programme where cross-sections will be surveyed every 2-3 years depending on the amount of gravel being removed. Currently cross-sections are approximately 1 km apart, and Environment B·O·P will have to assess whether this distance is enough to properly monitor the rivers.

Para 9 Costs of State of the Environment and Performance Monitoring are properly a charge against the region and should be paid for out of rates. The cost of other monitoring, however, is a legitimate charge against the operator.

12.2 Issues

Para 1 The issues relating to monitoring are:

(i) The lack of monitoring of environmental effects of gravel excavation.

(ii) The lack of reliable historical data for gravel management decision-making.

(iii) Unreliability of past excavation records obtained from operators.

(iv) Operator's records of volumes of excavated gravel based on volumes sold do not give an adequate measure of volumes removed from the river.

Objectives, policies and methods relating to monitoring are given in section 14.

12.3 Options

(i) Environment B·O·P to ensure that the effects of gravel excavation activities on the riverine environment are adequately monitored and where appropriate recover the costs from the resource users.

(ii) Environment B·O·P undertakes all necessary river grade and cross section monitoring itself, and applies the similar cost recovery mechanism that applies to all other resource use sectors.

(iii) Environment B·O·P requires operators to undertake day to day self-monitoring, and undertakes other monitoring itself.

12.4 Selected Options

Para 1 Environment B·O·P has selected options (i) and (ii). In this way it can ensure the standards of monitoring are maintained and that a long-term programme is instituted and maintained. In addition, Environment B·O·P will also require all operators to keep accurate records of the volumes of gravel removed from the river whether or not that material is later used. These records will be used for compliance monitoring and to check against Environment B·O·P's own records.

12.5 Reasons

Para 1 Option (i) assesses the impacts on the riverine environment from any of those activities. Option (ii) provides physical bed levels and cross section data allowing Environment B·O·P to determine the need for and location of gravel excavation activities. As Environment B·O·P is undertaking or overseeing the monitoring programmes the resulting data will be available to the public and will be of a consistent standard and quality.

The inconsistent standards resulting from option (iii) are likely to increase confusion and uncertainty and are believed by Environment B·O·P to outweigh its advantages.

13 Administrative Charges, Financial Contributions and Bonds

13.1 Administrative Charges

Para 1 Environment B·O·P can require operators to pay administrative charges under section 36 of the Resource Management Act 1991. Administrative charges are fixed in accordance with the provisions of that section and Environment B·O·P reviews these regularly under those provisions.

Para 2 The Resource Management Act 1991 allows Environment B·O·P to set administrative charges for, amongst other things, processing, granting, monitoring and supervision of resource consents, and for environmental monitoring. In assessing whether particular persons should be required to pay a charge in respect of monitoring, consideration is given to the extent that monitoring relates to the likely effects on the environment of those persons' activities, or to the extent that the likely benefit to those persons of the monitoring exceeds the likely benefit of the monitoring to the community.

Para 3 The charges may include:

- Those payable by applicants for resource consents for Environment B·O·P to receive, process, and grant the consent;
- Those payable by holders of resource consents for Environment B·O·P to administer, monitor and supervise the consent.
- Those payable by holders of resource consents to pay for state of the environment monitoring.

Para 4 Any charges levied must be related directly to the costs incurred by Environment B·O·P arising from the activity, and not for use on some other work such as "river works".

Para 5 Objectives and policies relating to administrative charges are given in section 14.

13.2 Financial Contributions

Para 1 Section 108 of the Resource Management Act 1991 allows the setting of conditions including financial contributions for resource consents. The purpose of applying financial contributions is to ensure that any adverse effects that cannot be avoided or remedied can be mitigated by the creation of positive effects on the environment.

Para 2 A financial contribution may be imposed where it is anticipated that the granting of a gravel excavation consent is likely to produce adverse effects that cannot be avoided or remedied. Such adverse effects include, but are not restricted to any adverse physical effects or damage to the instream river environment (including water quality and riverine habitat effects), visual effects, effects on physical

structures (flood protection works, public facilities, bridges, roads, pylons etc), and any adverse effects on downstream waterways, estuaries or the coastal environment.

Para 3 Financial contribution will be used to create any or all of the following:

- new habitats,
- infrastructural assets,
- public facilities,
- improvements to the natural character of the river bed and surrounding areas,
- improvements to amenity values,
- improvements to landscapes or vistas.

Para 4 The maximum amount of the financial contributions will be the full cost of the mitigation measures required to offset the adverse effects that are unable to be avoided or remedied.

13.3 Bonds

Para 1 In accordance with section 108(1)(b) of the Resource Management Act 1991, as a condition of a resource consent, Environment B·O·P may require a bond to be paid to ensure satisfactory:

(a) completion of works or structures associated with a proposal to avoid any adverse effects; or
(b) operation of works or structures to avoid any adverse effects; or
(c) alteration or removal of structures, and restoration works, following any works or activity being completed or ceasing so as to avoid any adverse effects; or
(d) completion or compliance with any other condition or term of the consent granted.

Para 2 Bonds are used to give added surety that consent conditions will be complied with. Bonds may be applied when there is a reasonable possibility of non-performance of conditions, (e.g. where there is a history of non-compliance by the applicant) and/or a likelihood of adverse effects because of the nature of the operation (e.g. large scale works on critical sites or works which extend over a long period).

Para 3 Where the Council requires a bond as a condition of a resource consent, that bond shall be of an amount (adjustable to take account of inflation over time) as to ensure that in the event of the resource consent holder being unwilling or unable to carry out the conditions of the consent, the Council can carry out the work. The Regional Council will require the bond to be guaranteed by a suitable financial institution to the satisfaction of the Council. Where adverse effects cannot be satisfactorily avoided, remedied or mitigated on site then satisfactory mitigation and/or enhancement works can be completed at other suitable sites preferably on the same river.

13.4 Options

(i) Environment B·O·P could set no financial contributions or bonds from holders of gravel excavation consents.

(ii) Environment B·O·P could set financial contributions and/or bonds as appropriate for remediation of adverse effects. This would require consent holders to pay for any adverse environmental effects of their activities.

13.5 Selected Option

Para 1 Environment B·O·P has selected option (ii): Environment B·O·P could set appropriate financial contributions and/or bonds as consent conditions to achieve remediation of adverse effects.

13.6 Reasons

Para 1 Financial contributions and/or bonds are mechanisms for mitigating adverse effects of river gravel excavation.

Para 2 The Resource Management Act 1991 requires plans to stipulate the purpose and basis of imposing financial contributions.

PART III

OBJECTIVES, POLICIES, AND METHODS
RULES
NOTIFICATION OF APPLICATIONS
ASSESSMENT CRITERIA LIST OF KNOWN TROUT SPAWNING AREAS
INFORMATION REQUIRED FOR A GRAVEL EXCAVATION CONSENT
ANTICIPATED ENVIRONMENTAL EFFECTS
GLOSSARY

14 Objectives, Policies and Methods

14.1 Introduction

Para 1 The following objectives, policies and methods of implementation are necessary to address the issues of gravel management presented in chapters 5-13.

14.2 Objectives

Objective 1 Reduction of the risks of flooding and riverbank erosion through control and management of gravel excavation activities.

Objective 2 Avoid, remedy or mitigate the adverse effects of gravel excavation on water quality.

Objective 3 The safeguarding of community assets through gravel and river management.

Objective 4 Maintenance of existing aquatic habitats.

Objective 5 Restoration of aquatic habitats degraded by gravel excavation.

Objective 6 Maintenance of riparian habitats that are not aggrading or causing erosion.

Objective 7 Protection of aquatic ecosystems that may be affected by river gravel excavation activities.

Objective 8 Recognition and protection of cultural and heritage sites and of the characteristics of the riverine environment of special spiritual, cultural and historical significance to tangata whenua that may be affected by river gravel excavation activities.

Objective 9 Avoid, remedy or mitigate conflicts between gravel excavation activities and amenity values, recreational use and public access.

Objective 10 Control adverse effects of gravel excavation activities.

Objective 11 Monitoring of the physical and environmental effects of gravel excavation activities.

Objective 12 Improved consultation on gravel excavation and river management activities between stakeholders and affected parties.

Objective 13 The involvement of tangata whenua in river management.

14.3 Policies

Policy 1 The balancing of gravel excavation rates with natural replenishment from the river catchment. Temporary over or under excavation may be necessary to correct over or under supply.

Policy 2 To sustainably manage and safeguard community assets (including flood control and drainage systems) from flooding and bank erosion.

Policy 3 To require gravel excavation activities to use best practicable options to minimise the discharge of sediment and its impact on water quality.

Policy 4 To minimise bank erosion, bed instability and risks from flooding.

Policy 5 To protect sites with ecological, habitat, natural character, amenity or heritage value from the adverse effects of river gravel excavation.

Policy 6 To ensure that any adverse effects on aquatic ecosystems are avoided where practicable or otherwise mitigated and remedied.

Policy 7 To ensure that any adverse effects on riparian values on areas that are not aggrading or causing erosion are avoided or otherwise remedied or mitigated.

Policy 8 To recognise the cultural sensitivity that may be associated with heritage sites.

Policy 9 To promote better liaison and more effective consultation between stakeholders, tangata whenua and affected parties.

Policy 10 To ensure that the relationships between tangata whenua and the region's rivers are recognised and provided for when dealing with gravel excavation.

Policy 11 To use rules, incentives, financial contributions and/or bonds to avoid, remedy or mitigate adverse effects on the environment.

Policy 12 Where possible gravel should be excavated from dry riverbeds.

Policy 13 To minimise the effect of gravel excavation activities on amenity values, recreational use and public access.

Policy 14 To develop and maintain linkages between gravel excavation and catchment management.

Policy 15 To maintain river flood flow capacity and design river alignment and bed grade levels through the management of gravel excavation activities.

Policy 16 To monitor physical and environmental attributes of rivers in order to determine the need for and the effects of gravel excavation activities.

Policy 17 To support the further development of river scheme liaison committees involving relevant tangata whenua, landowners and urban representatives.

14.4 Methods of Implementation

When acting as a consent authority Environment B·O·P will:

Method 1 Work with relevant organisations[7] to identify and have regard to the protection of riverine heritage values when considering consent applications under this plan.

[7] The relevant organisations are: district councils, Department of Conservation, Eastern Region Fish and Game Council, tangata whenua and the excavation industry.

Method 2 Identify with relevant organisations[7] fish spawning (see section 19) and rearing sites when considering gravel excavation resource consent applications.

Method 3 Have regard to fish spawning (see section 19) and rearing sites when considering a gravel excavation resource consent application.

Method 4 Apply controls on gravel excavation activities in order to safeguard existing riparian values on river reaches that are not actively eroding or aggrading.

Method 5 Develop guidelines and standards in liaison with relevant organisations[7] within 12 months of the public notification of Council's decisions on submissions for gravel excavation operations, which will include:

(i) habitat protection
(ii) habitat restoration/remediation
(iii) public access
(iv) amenity values
(v) recreational use, and
(vi) the avoidance, where possible of gravel operations within streams including the minimisation of vehicles crossing streams.

Method 6 Use guidelines, standards, incentives and rules to control gravel excavation activities.

Method 7 Identify and have regard to the safeguarding of community assets when considering consent applications.

Method 8 Require all vehicle maintenance and fuelling to take place away from riverbeds and unconsolidated berm areas.

Method 9 Control sediment release and transport from gravel excavation activities by using applicable water quality standards as conditions on consents.

Method 10 Require effective consultation programmes between all relevant stakeholders, tangata whenua and affected parties as a standard component of gravel excavation operations.

Method 11 Require all applicants for gravel excavation consents to provide evidence of effective consultation with tangata whenua likely to be affected by the proposed activity or those whom otherwise have tribal jurisdiction (mana whenua) over the intended location of the proposed activity.

Method 12 In accordance with section 104(1)(i) of the Resource Management Act 1991, have regard to iwi resource management plans when considering applications for gravel excavation consents.

Method 13 Consider requiring a financial contribution within the meaning of section 108(9) of the Resource Management Act 1991, as a condition of a gravel excavation consent to ensure that adverse effects of gravel excavation that cannot be avoided or remedied are suitably mitigated.

Method 14 When applying a financial contribution the basis outlined in section 13.2 will be used for calculating the amount to be imposed and the purpose to which it will be put.

Method 15 When applying a bond as a condition of a gravel excavation resource consent the basis outlined in section 13.3 will be used.

The bond (including cash bonds shall be of an amount (adjustable to take account of inflation over time) sufficient to ensure that in the event of the resource consent holder being unwilling or unable to carry out the conditions of the consent, Environment B·O·P can carry out the work to completion. The bond may need to be guaranteed by a financial institution that is acceptable to Environment B·O·P.

Method 16 Require consent holders to provide accurate information on the quantity of gravel removed from rivers.

Method 17 Carry out ongoing monitoring and collate data to effectively determine maximum and minimum levels of excavation and any adverse effects of excavation on the environment including cumulative effects.

When carrying out its functions under the Soil Conservation and Rivers Control Act 1941, Environment B·O·P will:

Method 18 Develop flood plains and gravel excavation management strategies for river catchments with major flooding problems, unstable riverbeds or river flood control schemes.

Method 19 Control gravel excavation rates to balance with natural replenishment.

Method 20 Where appropriate, use incentives to achieve the excavation of surplus gravel that is causing adverse effects on the environment.

15 Rules

15.1 Introduction

Para 1 Activities in the beds of rivers are controlled under Section 13 of the Resource Management Act 1991 unless specifically allowed by a rule in a regional plan, in any relevant proposed regional plan or a resource consent. Section 30(1)(c)(v) of the Resource Management Act 1991 also gives regional councils the function of controlling the use of land for the purpose of the avoidance or mitigation of natural hazards.

Para 2 This plan provides for the controlled excavation of gravel from the beds of rivers in order to assist Environment B·O·P in carrying out its river and flood management functions under the Resource Management Act 1991. The rules in this plan do not, however, absolve any persons undertaking gravel excavation from any common law liabilities. Consequently any person wishing to undertake gravel excavation will, prior to the excavation activity being undertaken, need to obtain:

(1) A land use consent, if required, from Environment B·O·P for river gravel excavation pursuant to Section 13(1)(b) of the Resource Management Act 1991 (see the rules which follow) and the requirements of the Regional Land Management Plan.

(2) A land use consent, if required, from the relevant territorial authority pursuant to Section 9 of the Resource Management Act 1991 (see the relevant district plan).

(3) Approval from the owner[8] of the gravel, and

(4) Permission from relevant landowners across whose property the gravel will need to be transported.

Para 3 The rules are to be used in conjunction with the definitions outlined in the Glossary (section 20.

NOTE 1 The modification of any archaeological site requires an authorisation from the Historic Places Trust and may also require a resource consent from the relevant territorial authority.

Para 4 The following consent categories apply to gravel excavation activities:

15.2 Permitted Activities

Any river gravel excavation activity that cannot meet the conditions specified for permitted activities under rules 1, 2 or 3 shall be assessed as a discretionary activity under rule 4.

[8] See Appendix 2 for information on gravel ownership. Aboriginal title may be an issue.

Rule 1 Subject to the following conditions the excavation and removal of up to 100 cubic metres per calendar year of river gravel from the dry part of any aggraded gravel beach[9] in the bed of a river within the Bay of Plenty region is a **permitted activity.**

Conditions:

(1) Notification shall be made in writing to the Group Manager, Regulation & Resource Management, Environment B·O·P at least 5 working days before any gravel excavation activities are undertaken. This notification shall include a statement containing the location of the site from where the gravel is to be excavated, the quantity of gravel to be excavated and the dates when the excavation activity is to be undertaken;

(2) Gravel shall only be excavated from the dry parts of the gravel beach that are more than 0.3 metres above the level of the adjacent river at that time;

(3) The excavation shall not leave holes in the riverbed at the end of each working day or leave stockpiles of gravel on the river bed on completion of the excavation activity;

(4) Gravel shall not be taken within one metre horizontal distance from the river bank or otherwise weaken the flood control functions of that bank;

(5) The gravel excavation shall not adversely affect river alignment or grade and shall not cause erosion or instability to the banks or the bed of the river. The activity shall not obstruct the free flow of water in such a manner where it results in a blockage, flooding or erosion;

(6) Best management practices shall be applied so that vehicle crossings of the river are minimised and those that are essential are carried out in the least environmentally damaging manner;

(7) Vehicle travel along riverbeds shall not involve any earthworks or vegetation removal;

(8) Stream crossings (including culverts, culvert extensions, bridges and fords) required as part of any gravel excavation removal activity shall comply with the requirements of Section 10.5.6 of the Regional Land Management Plan;

(9) Fuel and oil storage and machine refuelling shall not be undertaken on the bed of a river or in any other place where the spillage of these contaminants can enter into water;

(10) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited in a water body or place in a position where it could readily enter or be carried into a water body;

(11) The gravel excavation shall not adversely affect any significant ecological values; fish spawning and passage and bird nesting sites; and

(12) The activities shall ensure the protection of any archaeological, historic, or waahi tapu sites;

[9] Gravel beaches are raised areas where gravel has been deposited and occur predominantly on the inside of the elbows or bends in the river.

Activities shall immediately cease should any archaeological or historic site be discovered as a result of the activity, until appropriate authorisation is received.

Rule 2 Subject to the following conditions the excavation and removal of river gravel from, or where necessary it's placement on that part of the river bed not covered by water is a **permitted activity** provided it is undertaken by or on behalf of Environment B·O·P while exercising it's river management, flood protection or flood control functions under the Soil Conservation and Rivers Control Act 1941, for the purpose of achieving desired river meander pattern, location, alignment and bed grade.

Conditions:

(1) The quantity of river gravel that may be excavated from or placed on any gravel beach[10], that has a minimum natural bed[11] width of less than 25 metres in the vicinity of any part of that beach, shall not exceed 1,000 cubic metres provided that when that quantity is aggregated with the gravel that has been excavated under this Rule from any place in the bed of that river[12] during the previous 12 months shall not exceed 3,000 cubic metres;

(2) The quantity of river gravel that may be excavated from or placed on any gravel beach[10], that has a minimum natural bed[11] width equal to or greater than 25 metres in the vicinity of any part of that beach, shall not exceed 2,500 cubic metres provided that when that quantity is aggregated with the gravel that has been excavated under this Rule from any place in the bed of that river[12] during the previous 12 months shall not exceed 7,500 cubic metres;

(3) Notification shall be made in writing to the Group Manager, Regulation & Resource Management, Environment B·O·P at least 5 working days before any gravel excavation activities are undertaken. This notification shall include a statement containing the location of the excavation site, the quantity of gravel to be excavated and the dates when the excavation is to be undertaken. Prior to any gravel excavation being undertaken under this rule, the person carrying out the activity will advise the Department of Conservation, Eastern Region Fish and Game Council and any relevant river scheme liaison committee, relevant iwi authority or any other party Environment B·O·P considers are affected, of the proposed gravel excavation activity;

(4) Within ten working days of the end of every month during which gravel excavation activities are undertaken accurate records of the quantity of material excavated from the river system shall be supplied to the Group Manager, Regulation & Resource Management, Environment B·O·P;

---

[10] Gravel beaches are raised areas where gravel has been deposited and occur predominantly on the inside of the elbows or bends in the river.

[11] See definition of the bed of a river in the Glossary. "Natural" implies that the bed is not artificially widened or narrowed. For example artificial narrowing could result from the construction or placement of a bridge abutment.

[12] Rivers in condition (1) and (2) above apply to those named and identified on the NZMS 260 1:50,000 mapping series.

(5) Gravel shall not be taken within one metre horizontal distance from the river bank or otherwise weaken the flood control functions of that bank;

(6) Gravel shall only be excavated from, or placed on, dry gravel beaches that are more than 0.3 metres above the water level in the adjoining river at the time the excavation or deposition is being carried out. (Note: To remove gravel that is below water or less than 0.3 metres above the water level in the adjoining river at the time the excavation is being undertaken requires a discretionary resource consent from Environment B·O·P as specified under Rule 4);

(7) Machinery used to excavate gravel shall not operate on the parts of the river bed that are covered by water;

(8) Vehicle travel and gravel transport in, across or along waterbodies, rivers or streams shall be avoided. Where it is not possible to travel across or along the dry river or streambed, best management practices shall be applied to minimise travel through water so that they are carried out in the least environmentally damaging manner. Notification shall be given by the person carrying out the activity, to the Department of Conservation and Fish and Game New Zealand before any vehicle or equipment travel or gravel transport through rivers is carried out. The following crossings are excluded and required a resource consent from Environment B·O·P:

- stream or river crossing that occur during the trout spawning and hatching season of 1 May to 31 October, or
- crossings that exceed five consecutive days during the whitebait migration season of 15 August to 30 November in any year;

(9) Vehicle travel along the dry parts of river beds shall not involve any earthworks or vegetation removal;

(10) Stream crossings (including culverts, culvert extensions, bridges and fords) required, as part of any gravel excavation removal activity shall comply with the requirements of Section 10.5.6 of the Regional Land Management Plan.;

(11) The excavation shall not cause erosion or instability to the banks or beds of rivers*;*

(12) Fuel and oil storage and machine refuelling shall not be undertaken on the bed of a river or in any other place where the spillage of these contaminants can enter into water;

(13) The excavation activity shall not obstruct the free flow of water in such a manner that it results in a blockage or flooding of the river or erosion of the banks of any water body;

(14) The excavation shall:

(a) At the end of each working day;

(i) not leave holes in the riverbed; or
(ii) not store temporary stockpiles in the flood way.

(b) Not locate temporary stockpiles within 20 metres of the flowing waters edge.

On the completion of the excavation activity no stockpiles of gravel, plant, machinery or equipment are to be left on the riverbed;

(15) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited in a water body or place in a position where it could readily enter or be carried into a water body;

(16) The excavation shall not impede public access to and along the river except for temporary restrictions necessitated by operational health and safety requirements;

(17) Gravel excavation and deposition shall not adversely affect any significant ecological values, fish spawning and fish passage or bird nesting sites; and

(18) The activity shall immediately cease, should any archaeological or historic site be discovered as a result of the activity, until appropriate authorisation is received. This is to ensure the protection of archaeological, historic, or waahi tapu sites.

Rule 3 Any river gravel excavation activity or related disturbance of the bed of a river that meets the requirements of and is permitted under either Rule 10.5.8.2 or Rule 10.5.8.3 of the Regional Land Management Plan is a permitted activity under this plan.

15.3 Discretionary Activities

Rule 4 Any river gravel excavation activity or any related disturbance of the bed of a river that is not a permitted activity in accordance with either Rule 1, 2 or 3 above is a discretionary activity. Discretionary activity consent applications will be assessed using the Assessment Criteria in section 16 and any other matter in section 104, Resource Management Act 1991.

All applications for discretionary activities will be publicly notified unless the applicant has obtained written approval from all affected parties and has demonstrated that the adverse effects on the environment are minor.

16 Assessment Criteria for Consent Applications

This table presents the matters that will be considered by Environment B·O·P when assessing river gravel excavation consent applications. Environment B·O·P may consider any other matter in accordance with section 104, Resource Management Act 1991.

	FACTOR	CRITERIA	ANTICIPATED ENVIRONMENTAL RESULTS
1	**Erosion/Sedimentation**	The proposed activity will be located, maintained and operated so as to avoid where practicable, or otherwise minimise any adverse effects on the background levels of erosion or sedimentation both in the immediate area of the proposed activity and the wider area.	Minimisation by mitigation, remediation or avoidance of erosion, and deposition of sediment in rivers.
2	**Water Quality**	The proposed activity (including its location, maintenance and operation) will avoid where practicable, or otherwise minimise any adverse effects on water quality – including factors of; suspended solid levels, colour and clarity. Unless exceptional[13] conditions prevail consents will not be granted for excavations within the flowing part of the river.	The maintenance of existing water quality.
3	**Ecological**	The proposed activity will avoid where practicable, or otherwise minimise any adverse effects upon the ecology of the area including effects on: aquatic ecosystems and wildlife; fish (including trout); benthic communities; aquatic and riparian habitats; and upon the inter-relationships of the ecology of the site with its surrounding area. Where practicable the proposal will also show how the continued or enhanced protection of identified areas of significant conservation value within the affected area will be achieved. Unless exceptional[13] conditions prevail consents will not be granted for excavations within the flowing part of the river.	Maintenance and enhancement of existing ecological values.
4	**Maori Values**	The proposed activity will avoid where practicable or otherwise mitigate	Respect for Maori spiritual values and

[13] Exceptional conditions include for example the need for any of the following activities:

- the restoration or enhancement of aquatic or riparian habitat;
- the maintenance of river flood flow capacity, meander patterns and design bed grade;
- the remediation of bank erosion, bed scour and flood damage;
- the construction and maintenance of bank and flood protection structures; or
- the removal of structures that constitute a flood hazard or the mitigation of the adverse effects of them.

	FACTOR	CRITERIA	ANTICIPATED ENVIRONMENTAL RESULTS
		any significant adverse effects on relevant tangata whenua spiritual or cultural values including; waahi tapu, urupa and traditional access. It is to be demonstrated that the applicant has consulted with the appropriate iwi authority including the responses of the applicant to the issues raised by the tangata whenua.	maintenance of traditional rights of access and use of the affected area.
5	**Adjoining/Off-site Activities and Structures**	The proposed activity is to be located, maintained and operated so as to have no significant adverse effects on existing lawful activities or structures (of either an active or passive nature) in the immediate area and in the wider area except by written agreement of the person responsible for the structure or undertaking the activity (if such a person can be identified).	Minimisation of any adverse effects on existing lawful activities and structures except by prior written agreement of the person responsible for the activity or structure.
6	**Natural Hazards**	The proposed activity (including its location, maintenance and operation) will not compound the effects/risk of a known or potential natural hazard e.g. flooding.	Avoidance/mitigation of known natural hazards.
7	**Sites of Historic, Archaeological or Scientific Value**	The proposed activity (including its location, maintenance and operations) will have no adverse effects on any areas or historic, cultural, archaeological or scientific importance except with prior written permission from the New Zealand Historic Places Trust or relevant authority.	Avoidance of any adverse effects on archaeological, scientific or traditional sites except with prior written permission from the New Zealand Historic Places Trust or other relevant authorities.
8	**Natural Character/Visual/Aesthetic**	The proposed activity will avoid where practicable or otherwise mitigate any significant adverse effects on the river environment including landscape values and outstanding natural features, and on any area subject to high levels of public use or viewed by many people.	Minimisation of the adverse effects of works or activities on natural character and landscape values.
9	**Timing or Scheduling**	The proposed activity will be carried out/operated either for parts of a day or only at certain times of the year so as to avoid significant adverse effects on the environment, including fish spawning and passage.	Activities are sensitive to competing values and existing lawful activities by ensuring where need be, that operations are carried out at times of the day or year to avoid conflicts.
10	**Cumulative Effects**	The proposed activity will not result in significant cumulative effects (including effects on the coastal environment) either from the affect of this activity in addition/combination with other activities in the area, or from the accumulation of factors associated with this particular activity.	The potential for a particular proposed activity to create cumulative effects is recognised and assessed as part of an application.

17 List of Known Trout Spawning Areas

The following is a list of known trout spawning areas around the region:

(a) Rangitaiki River upstream of Matahina Dam;
(b) Whakatane River upstream of Ruatoki North;
(c) Waimana River;
(d) Waiotahi River;
(e) Waioeka River;
(f) Otara River;
(g) Motu River upstream of the main road;
(h) Raukokore River upstream of the main road;
(i) Whirinaki River;
(j) Horomanga Stream;
(k) Ngatamawahine Stream;
(l) Haumea Stream;
(m) Hikurangi Stream;
(n) Mangamate Stream;
(o) Mangawiri Stream;
(p) Mangamako Stream;
(q) Waihua Stream;
(r) Waikokopu Stream;
(s) Tributaries of the Whakatane and Waimana Rivers.

18 Information Required for a Gravel Excavation Consent

18.1 Introduction

Para 1 Sufficient information needs to be provided with each gravel excavation consent application to ensure that each consent application is able to be assessed by Environment B·O·P and to ensure that any adverse effects of any proposed excavation activities are, where possible, avoided, remedied or mitigated.

Para 2 In some instances Environment B·O·P may require further information to more adequately assess the consent application.

18.2 Requirements

The following lists the information required for a gravel excavation consent.

18.2.1 A description of the proposed activity including:

(a) a description of the excavation site;
(b) proposed method(s) of excavation;
(c) a schedule of the works including anticipated start and finish dates (where appropriate);
(d) volumes of gravel to be excavated monthly and annually;
(e) details of any gravel processing operations on the riverbed;
(f) the ownership of the gravel resource;
(g) rehabilitation once the activity has ceased.

18.2.2 Details of the engineering design of any environmental protection works, stream crossings and any other relevant strictures associated with the proposal.

18.2.3 A plan of the proposed activity including map references from the NZMS (Infomap) 260 series showing the location of the excavation site, access tracks, stock piles and their proximity to:

(i) any water bodies, including harbours and the sea;
(ii) any gullies or steep erodible features;
(iii) any significant ecological sites;
(iv) any built structures such as stopbanks; training groynes; bridges, public roads, buildings, pipelines; powerlines, etc.;
(v) any known archaeological/historic sites;
(vi) boundaries with adjacent landowners;
(vii) fish spawning/bird nesting sites;
(viii) any sites of high public usage such as picnic areas, fishing reaches, canoeing reaches etc.

18.2.4 Details of any consultant(s)/contractor(s) involved with the proposal.

18.2.5 An assessment of:

(i) any actual or potential environmental effects in accordance with the Fourth Schedule of the Resource Management Act 1991; and
(ii) proposed methods of avoiding, remedying, or mitigating any adverse effects appropriate to the assessment criteria in Table 2 as relevant;
(iii) A list of any person(s) likely to be affected by the proposal.

18.2.6 Where any of the values in the Table 1 below are likely to be affected then evidence must be supplied that appropriate consultation has occurred.

TABLE 1

CONSULTATION REQUIRED

	VALUE	**PERSON/ORGANISATION TO BE CONSULTED**
a	Waahi tapu, urupa, natural and physical resources of significance to iwi authorities. Archaeological/historical sites.	Department of Conservation, New Zealand Historic Places Trust and/or relevant iwi authority, whanau or hapu.
b	Indigenous fauna including freshwater fisheries/vegetation.	Department of Conservation or other organisation with relevant expertise.
c	Trout and game birds and their habitat	Eastern Region Fish and Game Council.
d	Built structures.	Appropriate owner/user group, e.g. Environment B·O·P, Transit NZ, local authority, government department etc.
e	Adjacent landowners or water users.	Adjacent landowners or water users.

18.2.7 Details of the proposed monitoring programme of the expected effects of the activity and a statement of who will be carrying it out.

18.2.8 Details of any other resource consents required in relation to the proposal and whether or not these have been applied for (including consents from district councils).

18.2.9 Any further supporting evidence, documents, plans, etc.

19 Anticipated Environmental Results

Para 1 The environmental results anticipated from the implementation of the policies and methods contained in this plan will achieve the following environmental outcomes.

(a) Preservation of the natural character of rivers and their margins and the protection of them from inappropriate use and development.

(b) Maintenance and enhancement of the water quality of riverine areas.

(c) Maintenance of physical and ecological river processes.

(d) Maintenance of the biological diversity of the river environment including mitigating the adverse effects of river gravel excavation on fish passage and spawning.

(e) Maintenance and enhancement of the amenity values of the riverine environment, including recreational, educational, cultural, social and inspirational experiences.

(f) Protection of the heritage values of sites, structures, places or areas within the riverine environment.

(g) Protection of the mauri of the natural and physical resources of the riverine environment.

(h) Allowance for the efficient and appropriate use and development of the natural and physical resources of the riverine environment.

(i) Increased certainty of outcome for potential and actual users of the river gravel resource.

(j) Co-ordination between the various agencies, which exercise responsibilities within the river environment.

20 Glossary

The following definitions are to be used in conjunction with the rules identified in section 15. Where italics are used in the glossary, the definition is from section 2 of the Resource Management Act 1991.

Abrasion: The process of wearing down or scraping by friction. The effect of mechanical erosion of rock (especially a riverbed) by rock fragments scratching and scraping it.

Abutment: A construction that supports the end of a bridge.

Aggradation: The process of building up a riverbed by deposition.

Aggregate: Crushed rock or gravel screened to sizes for use in road surfaces, concrete, or bituminous mixes.

Aquatic: Living or found in water.

Beach Nourishment: The process of supplying new sediment (e.g. sand) into a beach system.

Bed: *(Part 1, Section 2, Resource Management Act 1991) Means, -*

(a) In relation to any river -

(i) For the purpose 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

(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.

Bedload: Material transported down a river in or on the bed of a river, as opposed to material transported in suspension in the water.

Best Practicable Option: *(Section 2, Resource Management Act 1991) 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.

Blanket Licence: A licence issued under the Land Act 1948 to Environment B·O·P allowing it to excavate gravel from Crown riverbeds. See Appendix 4.

Bond: A written acknowledgement of an obligation to pay a sum of money or to perform a contract in the event of a condition on a consent not being met.

Catchment: The total area from which a single river collects surface runoff.

Channel: The portion of a river down which water flows during times of normal to low flows.

Channelisation: The act of straightening, widening and deepening an existing natural watercourse to enable it to carry more water.

Coastal Marine Area: *(Section 2, Resource Management Act 1991) 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:

Community Assets: Include land, urban and rural settlements (structures, and facilities), local and regional infrastructure, network utilities (i.e. transport and transmission assets/facilities), other service and amenity assets, flood and erosion control structures and facilities.

Controlled Activity: Refer to section 2 of the Resource Management Act 1991.

Crown Owned Mineral: A mineral that is the property of the Crown in the meaning of the Crown Minerals Act 1991.

Culvert: A drain or covered channel (usually a pipe) that crosses under a road, railway etc.

Debris Avalanche: A fall of broken rock or debris.

Degrade: The lowering of a river by erosion of its bed.

Deposition: The natural laying down of material on land or in the bed by a river.

Detritus: Any loose matter removed directly from rocks and minerals by mechanical means such as disintegration or abrasion.

Discretionary Activity: Refer to section 2 of the Resource Management Act 1991.

Dry Bed: The part of the riverbed, which is normally dry but is covered by floodwaters on average once a year.

Dynamics (of a river): The way water flows down a river and is affected by river shape etc.

Effect: *(Section 3, Resource Management Act 1991) …*

In this Act, unless the context otherwise requires, 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— regardless of the scale, intensity, duration, or frequency of the effect, and also includes—

(e) Any potential effect of high probability; and

(f) Any potential effect of low probability which has a high potential impact.

Erosion: The process of wearing away the land's surface by natural agents and transporting the resulting sediment.

Estuary: A broad tidal area associated with a river where there is mixing of saline and fresh water.

Evaporation: The process of converting water trapped in the soil and free water on vegetation to water vapour.

Flood Control Works: Works (e.g. stopbanks etc) constructed and maintained to contain floods.

Floodplain: River valley apart from the river channel which is inundated only in flood events and which gives rise to discharge attenuation.

Ford: A defined site for vehicles to cross rivers, but where the vehicles usually have to drive in the water.

Gravel: A collective term for the material in a bed of a river. It includes sand, silt, shingle, rocks and boulders.

Gravel Beach: Raised area where gravel has been deposited naturally. They predominantly occur on the inside of the elbows or bends of the river.

Greywacke: A type of sedimentary rock.

Heritage: Includes those aspects of the natural and cultural environment, which have been inherited from the past and are valued by present communities as worth handing on to future generations.

Hui: Meeting.

Interception (of rainfall): The prevention of rainfall from reaching the ground because it is caught in vegetation or structures and is directly evaporated back into the atmosphere.

Invertebrate: An animal without a backbone.

Iwi Authority: Means the authority which represents an iwi and which is recognised by that iwi as having authority to do so.

Iwi Management Plan: A document drawn up and accepted by iwi that expresses their resource management issues and objectives.

Kaitiaki: A person or agent who cares for taonga; may be spiritual or physical. Guardian, steward, but the meaning in practical application may vary between different hapu or iwi.

Kaitiakitanga: Means the exercise of guardianship; and, in relation to a resource, includes the ethic of stewardship based on the nature of the resource itself.

Litter: The collection of fallen leaves, branches and other dead vegetation that forms on a forest floor.

Lithology: The description of the physical character of a rock as determined by the eye or with a low power magnifier and based on a number of factors, which include colour, structures, mineralogic components and grain size.

Local Authority: A regional council or territorial authority.

Long-shore Drift: The drift of sediment along a shore due to oblique wave patterns and to currents.

Major Flood Control Scheme: Defined river control works carried out within the catchments of a major river in the Bay of Plenty.

Mana: Power, authority, prestige.

Mana Whenua: Customary authority and title exercised by an iwi or hapu in an identified area.

Mauri: The essential life force or principle. A metaphysical quality inherent in all things, both animate and inanimate.

Meander: The sinuous path of a river.

Natural Bed Width: The width (as defined in section 2 of the Resource Management Act 1991) of the bed of a river that has not been artificially narrowed or widened. For example artificial narrowing could result from the construction or placement of a bridge abutment.

Non-complying Activity: Refer to section 2 of the Resource Management Act 1991.

Permitted Activity: Refer to section 2 of the Resource Management Act 1991.

Prohibited Activity: Refer to section 2 of the Resource Management Act 1991.

Public Authority: Any local authority, iwi authority, government department, statutory authority or joint committee of local authorities established under the Resource Management Act.

Reach (of a river): A part of a river that can be considered as a unit.

Remediation: The act of remedying or making good an adverse effect.

Revegetation: The re-establishment of vegetation, either artificially or naturally, on bare land.

Riparian: Adjacent to a waterway.

Riparian Margin: A three dimensional zone of direct interaction between terrestrial and aquatic ecosystems. However for practical application the zone is restricted to a maximum horizontal distance of two metres from the edge of the waterbody.

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, watersupply race, canal for the supply of water for electricity power generation, and farm drainage canal).*

River Bank: The banks bounding either side of a riverbed.

Riverbed: See Bed above.

River Cross-Section: The shape of a river across its width at any given point.

River Grade: The steepness of a river at any given point.

River Gravel: Gravel currently in the bed of a river.

Riverine: Of or on a river or its banks.

River Maintenance: Works undertaken to maintain a river in a given route or with given characteristics.

River Morphology: The shape of an entire river and its tributaries.

River Work: A general term for work undertaken on rivers to and includes river training and riverbank protection.

Run-riffle-pool: The bed morphology of rivers often follows a run-riffle-pool sequence. Runs are relatively fast flowing sections of moderate depth (~0.75 - 1.2 m) and little surface disturbance from the riverbed. Riffles are also fast flowing but are shallower than runs (<0.4 depth) with considerable surface disturbance. Pools are deep sections (>1.5 m) with relatively slow water velocity.

Sand: Sediment whose predominant grain size is between silt and shingle.

Sediment: Deposited material consisting of the products of erosion.

Sedimentary: Rock made up of sediment that has been hardened over time.

Shingle: Sediment consisting of boulders and rocks.

Silt: Sediment whose predominate grain sizes are between mud and sand.

Siltation: The act of covering with silt.

Single Span Bridge: A bridge with no intermediate piers between its abutments.

Smothering: To suffocate by covering or coating with another material.

Soil Conservation: The balanced management of land to maintain and enhance the soil's versatility and intrinsic values, maximising its sustainable productivity while minimising the adverse effects of its use.

Stockpile: A (usually temporary) pile of gravel that has been obtained from a river.

Stopbank: An embankment bordering one or both sides of a river or channel to contain flows.

Stream Crossing: The point where a track or road crosses a stream.

Substrate: In relation to fish spawning, the material on the river bottom onto or into which the eggs are laid.

Suspended Sediment: Material transported by a river while suspended in water.

Taonga Tukuiho: Heritage.

Tangata Whenua: in relation to a particular area, means the iwi, or hapu, that holds mana whenua over that area.

Transpiration: The loss of water vapour by plants to the atmosphere.

Velocity: Rate of motion; speed.

Volcanic Ash: Fine material showered down over the land from volcanic "clouds" during eruptions.

Waahi Tapu: Sacred site. These are defined locally by iwi or hapu, which are the kaitiaki of the waahi tapu.

Water Conservation Order: *Has the meaning set out in section 200* [of the Resource Management Act 1991].

PART IV

APPENDICES

21 Appendix 1: Legislation Governing Gravel Excavation

21.1 Soil Conservation and Rivers Control Act 1941

Para 1 Environment B·O·P has responsibilities under the Soil Conservation and Rivers Control Act to control flooding. The major river control schemes in the Bay of Plenty were established under this Act. Section 126 gives Environment B·O·P powers for, *inter alia*, controlling or regulating water flow in and from watercourses, preventing or lessening overflows, and bank damage. One of the ways it has done this is by licensing commercial operators and district councils to remove gravel from rivers where it has built up. Environment B·O·P was given authority to do this by way of a "Blanket Licence" under s.165 of the Land Act 1949, as the beds of rivers are Crown property.

Para 2 The Soil Conservation and Rivers Control Act is now subservient to sections 176-182 of the Harbours Act 1950 and to the Resource Management Act 1991. The effect of this is that works and activities regulated by the Soil Conservation and Rivers Control Act must be first authorised under the Resource Management Act and/or ss.176-182 Harbours Act (where the works on tidal land) before they may be carried out.

Para 3 There are no bylaws established under the Soil Conservation and Rivers Control Act relating specifically to gravel excavation in the Bay of Plenty Region, although there is one in Opotiki relating to crossings of, and alterations to, watercourses. This bylaw is now a regional rule in the Transitional Regional Plan.

21.2 Land Act l948

21.3 Blanket Licences

Para 1 Blanket licences are the means by which the Crown authorises the excavation of material from river beds. This is on the basis of the Crown being the owner of the land. Environment B·O·P currently holds a blanket licence for gravel removal from Crown-owned beds of rivers in the former Bay of Plenty Catchment Commission's district. The licence was issued by the Land Settlement Board in September 1970, and the terms were accepted by the Commission in November 1970. The licence has no expiry date, but was issued at the pleasure of the Land Settlement Board, which means that it could be cancelled or altered by the Crown at any time.

Para 2 The licence excludes areas within the Tauranga Harbour Limits (which include the lower Wairoa River) and rivers flowing through scenic reserves and Te Urewera National Park.

Para 3 Gravel excavated in the Opotiki District is governed by an equivalent licence issued to the former Poverty Bay Catchment Board.

Para 4 Although the excavation of material is licensed by the Crown as the owner of the land through the blanket licence, the Crown also has to licence the excavation of gravel as an owner of the mineral. In the latter capacity the licensing is under the Crown Minerals Act 1991.

21.4 Crown Minerals Act 1991

Para 1 Overall, the presumption of this Act is that no person may prospect or explore for, or mine, Crown owned minerals unless they hold a permit (s.8(1)). However, in the case of natural materials in the bed of rivers, lakes or the coastal marine area, there are no restrictions **within this Act** unless otherwise specified in a minerals programme.

Para 2 Minerals programmes are being drawn up by the Ministry of Commerce under the Crown Minerals Act. Their purpose is to allocate rights to Crown owned minerals, and to set a system so that the Crown can obtain "a fair financial return" (s.12).

Para 3 No minerals programmes have yet been drawn up, although shingle is to be subject to such a programme. It is understood that the Ministry intends to delegate to regional councils the function of controlling gravel management in rivers, although a royalty will probably be set. This will be likely to be collected by Environment B·O·P on the Crown's behalf.

Para 4 It is not known whether the Crown intends to retain the Blanket Licences issued under the Land Act after the establishment of a shingle management programme.

21.5 Resource Management Act 1991

Para l Activities in the beds of rivers and lakes are governed by s.13(1), which divides the activities into two groups, each with a different presumption.

Para 2 Erecting or using structures, and excavating and disturbing the bed are restricted by s.13(1). Such activities are prohibited unless allowed by a rule in a regional plan or by a resource consent. This would include gravel excavation. Access across beds and disturbance of plants and animal habitats are covered by s.13(2). Here the presumption is that these are allowed unless constrained by a rule in a regional plan; they would then require a consent unless they were allowed by s.20 (existing uses).

Para 3 At present there is no regional plan covering the management of beds of rivers, which would include gravel excavation. However, s.418(3) in effect postpones the effect of s.13(1) (provided the activities are lawful) until such a regional plan provides otherwise.

Para 4 In the coastal marine area, for example estuaries, river mouths, and open beaches below mean high water spring tides, excavation of miners such as sand is governed by s.12, and hence by the Regional Coastal Environment Plan.

21.6 The National Water Conservation (Motu River) Order 1984

54

1984/20

THE NATIONAL WATER CONSERVATION (MOTU RIVER) ORDER 1984

DAVID BEATTIE, Governor-General

ORDER IN COUNCIL

At the Government Buildings at Wellington this 7th day of February 1984

Present:

THE RIGHT HON. D. MACINTYRE PRESIDING IN COUNCIL

PURSUANT to section 20D of the Water and Soil Conservation Act 1967, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby makes the following order.

ORDER

1. **Title and commencement**—(1) This order may be cited as the National Water Conservation (Motu River) Order 1984.
(2) This order shall come into force on the 14th day after the date of its notification in the *Gazette*.

2. **Interpretation**—In this order, unless the context otherwise requires,—
"Act" means the Water and Soil Conservation Act 1967:
"River" means those parts of the Motu River and its tributaries described in the Schedule to this order.

3. **River to be preserved**—It is hereby declared that the river shall be preserved as far as possible in its natural state.

4. **Right to dam not to be granted**—(1) A right to dam the river shall not be granted under section 21 or section 23 of the Act.

(2) Any right granted under section 21 or section 23 of the Act to dam any part of the Motu River not described in the Schedule to this order shall be granted in such a way or subject to such conditions as will result in the dam not affecting the river.

5. Water rights—(1) Except as provided in subclause (2) of this clause, a water right shall not be granted under section 21 or section 23 or section 24 of the Act, and a general authorisation shall not be given under section 22 of the Act, in respect of the river or any part of it.

(2) Notwithstanding the provisions of subclause (1) of this clause, a water right may be granted under section 21 or section 23 or section 24 of the Act, and a general authorisation may be given under section 22 of the Act, in respect of the river or any part of it, for or in connection with—

(a) The maintenance of State Highway 35, including any bridge over the Motu River forming part of that highway:

(b) Soil conservation and related matters undertaken pursuant to the Soil Conservation and Rivers Control Act 1941.

6. Saving—Nothing in this order shall be construed as limiting the effect of the second proviso to section 21 (1) of the Act relating to the use of water for domestic needs, for the needs of animals, and for or in connection with fire-fighting purposes.

SCHEDULE

The Motu River from and including the Motu Falls (at or about map reference NZMS 1 N88:007886) to the State Highway 35 bridge (at or about map reference NZMS 1 N70:052354), together with—

(a) The following tributaries of the Motu River:

(i) The Waitangirua Stream;

(ii) The Mangaotane Stream;

(iii) The Te Kahika Stream; and

(iv) The Mangatutara Stream:

(b) That part of the Takaputahi River below its confluence with the Whitikau Stream (at or about map reference NZMS 1 N79:004116).

P. G. MILLEN,
Clerk of the Executive Council.

EXPLANATORY NOTE

This note is not part of the order, but is intended to indicate its general effect.

This order provides for the preservation as far as possible in its natural state of the Motu River from the Motu Falls to the State Highway 35 bridge.

Issued under the authority of the Regulations Act 1936.
Date of notification in *Gazette:* 9 February 1984.
This order is administered in the Ministry of Works and Development.

22 Appendix 2: Allocation and Ownership of Gravel

22.1 Background

Para 1 The setting of maximum excavation levels is determined through monitoring, data collection and information from other sources and appropriate analysis. This is addressed in section 13.

Para 2 The allocation process is separate to the resource consent process, which is outlined in sections 16, 17 and 18. A resource consent to excavate gravel does not give ownership rights over gravel. It is not a licence. Ownership of gravel will need to be determined independently of the process of applying for a resource consent.

22.2 Ownership

Para 1 Although it is possible to separate the management of river gravel from its ownership, there are some management implications arising from the question of ownership. For example, the Crown Minerals Act has jurisdiction over Crown-owned minerals only, which in turn rests largely on the ownership of the riverbed. Likewise, the Blanket Licences (see Appendix 4) do not cover all riverbeds.

Para 2 The issue of ownership of riverbeds and gravel, and consequently of the control of gravel removal, is contentious. The following points can be made:

(a) Laws created since (and including) the Coal Mines Act 1925 have assumed that the beds of navigable rivers are the property of the Crown.

(b) Gravel in Crown-owned riverbeds is the property of the Crown. Gravel in the beds of rivers with private title may still be the property of the Crown, depending when the title was created.

(c) Where rivers have been surveyed and have subsequently strayed from their surveyed path, then they may cross land with private title. In these cases the gravel could be in private ownership, even though its excavation would be controlled by the Resource Management Act 1991. It is not known whether this situation exists in the Bay of Plenty.

(d) Where private titles have been created alongside rivers then *usque ad medium filum aquae* (up to the middle thread of the water)[14] may apply. Thus permission may be required from adjoining landowners before gravel is excavated from the riverbed.

(e) Tangata whenua consider that all riverbeds are subject to aboriginal title. Tangata whenua are supportive of the plan to manage the river gravel

[14] Where a parcel of land is bounded by a non-tidal, non-navigable river it is presumed that the registered proprietor of that land owns the bed of the river to the centre line of the stream.

resource provided their aboriginal title is not impinged. This plan provides for the management of rivers and their beds in full consultation with tangata whenua.

23 Appendix 3: Blanket Licences

SHINGLE REMOVAL - BLANKET LICENCE

I am pleased to advise that a blanket licence in favour of the Commission has been approved by the Land Settlement Board, to cover the removal of sand and shingle from the Crown-owned beds of all rivers in the Commission's district within the South Auckland Land District. The term of the permit is to be "at the pleasure of the Land Settlement Board" and subject to the following conditions:

1. That this licence excludes all areas within the Tauranga Harbour limits and areas over which control is vested in the: Tauranga County Council, the Whakatane County Council or any other local body or authority that has a controlling interest in land that lies within the area covered by the licence.

2. That no rent - or royalty be charged by the Crown under the licence.

3. That the Licensee has the authority to sublet any of its rights under the licence, provided that any royalty received is spent on river protection works.

4. That the Licensee will allow the removal of shingle and sand by Government Departments and the local authorities without charge except for a reasonable supervision fee. If shingle and sand are supplied to these bodies though a contractor, the terms of the contract should provide that no royalty be paid. The contractor to contract for the excavation, delivery and all costs incidental to the removal thereof.

5. That the Licensee will comply with the provisions of the Quarries Act 1944 and amendments thereto, in order that inspections under this Act may be carried out.

6. That the Licensee will indemnify the Crown against any claims of ownership by riparian owners.

7. That operating conditions should be defined by the Licenser.

8. That the licence does not cover rivers where they flow through National Parks or Scenic Reserves.

9. That, if navigable channels are to be blocked, notices should-be erected both up and down stream to warn boats using such channels.

10. That if cage wires or track lines are constructed across navigable channels warning notices must be erected up and down stream and wires themselves must be marked with flags.

11. That no wires or other structures which may cause danger to boats are to be left unattended, as provided for in Condition 13.

12. That wires left at night or which will be unattended must be dropped to the bed of the river or stretched at such a height as to constitute no danger to navigating craft.

13. That where tip holes are left, special warning precautions be taken by local advertisement if appropriate.

14. That the Licensee in the exercise of his rights, privileges and powers under the licence shall not at any time do or suffer any act or omission which may have any detrimental effect on the use of the said river by the New Zealand Electricity Department for the generation of electric power.

15. The Licensee shall promptly comply with any notice or direction given by the District Electrical Engineer of the New Zealand Electricity Department at Hamilton, in respect of the Authority's use of the said river when such notice shall have been given.

16. The Licensee's rights are restricted to shingle and sand in riverbeds and do not extend to Crown Land strips and reserves along the banks.

If there is any more information you require, please notify me. Following acceptance of the-above terms and conditions by the Commission, would you please note the Authority's acceptance on the duplicate copy of this letter attached and return it to me.

The term sand conditions as scheduled above were agreed to by the Bay of Plenty Catchment Commission at a meeting held on the 3/11/70

Yours faithfully

A. E. TURLEY

Commissioner of Crown Lands

……
Secretary

per:

LICENCE TO REMOVE GRAVEL ISSUED PURSUANT TO
SECTION 165 OF THE LAND ACT 1948.

THIS DEED made the first day of July One Thousand Nine Hundred and Sixty-Eight BETWEEN HER MAJESTY THE QUEEN (who is hereafter called "the Licensor") of the one part AND THE POVERTY BAY CATCHMENT BOARD, a Board duly constituted pursuant to the Soil Conservation and Rivers Control Act, 1941, and having its office in Gisborne (hereinafter called "the licensee") of the other part WHEREAS the Land Settlement Board acting for and on behalf of Her Majesty the Queen has, pursuant to section 165 of the Land Act, 1948, authorised the issue of a rent free licence at the pleasure of the said Board to the Licensee for the purpose of controlling the removal of shingle from all Crown owned river beds in the Gisborne Land District subject to the following terms and conditions:

(1) That the licensee has the authority to sublet any of its rights under the licence provided any royalty received is spent on river protection works.

(2) That the licensee complies with the provisions of the Quarries Act 1944 and amendments thereto; and the Mines Department to be advised of all permits issued in order that inspections under this Act may be carried out.

(3) That the licensee indemnify the Crown against any claims of ownership by riparian owners.

(4) That the licensee shall inform "the Licensor" of all licences issued and of the terms imposed.

(5) That the licence does not cover any tidal areas or those parts of rivers which come under the control of the Marine Department, without the prior consent in writing of that department.

(6) That the licensee may not permit the removal of shingle from rivers flowing through National Parks or Scenic Reserves.

(7) That the Licensee may not permit the removal of shingle from rivers flowing through National Parks or Scenic Reserves.

(8) That the Licensee will ensure that if gauging wires or ropes are constructed across navigable channels warning notices must be erected up and down stream and the wires or ropes themselves are marked with flags.

(9) That the Licensee will ensure that no wires, ropes or other obstructions are left unattended except as provided for in (10).

(10) That wires left at night or which will be unattended must be dropped to the bed of the river or stretched at such a height as to constitute no danger to navigating craft.

(11) That the Licensee will ensure that where deep holes are left by shingle removal operations special warning precautions be taken, in some cases local advertisement may suffice.

AND it is hereby agreed and declared as follows:

That the licensee allow the removal of gravel and sand by Government Departments and local authorities without charge except for a reasonable supervision fee. If sand and shingle is supplied to these bodies by a contractor the terms of the contract shall provide for no royalty payments, though the contractor may contract for excavation and delivery etc.

AND it is hereby further declared that this licence is intended to take effect as a license under section 165 of the Land Act 1948 and the provisions of that Act applicable so such licences shall apply to those presents.

IN WITNESS WHEREOF the Commissioner of Crown Lands for the Land District of Gisborne, on behalf of Her Majesty the Queen, has hereunto set his hand and those presents have also been executed by the Licensee.

24 Appendix 4: Types of Activities

24.1 Introduction

Para 1 Although in general the Resource Management Act 1991 focuses on the effects of activities, section 30(1) authorises Environment B·O·P to control the actual use of land for a number of purposes. These purposes include soil conservation, maintenance of water quantity and quality, and the avoidance or mitigation of natural hazards. In addition, section 30 1(e) authorises Environment B·O·P to control the taking, use, diversion, and damming of water, and to control the quantity, level and flow of water.

Para 2 The Resource Management Act 1991 recognises that the magnitude of adverse effects differs from activity to activity (ie: some effects may be far greater for some activities than they would be for others). Accordingly, the Act has set a number of use categories, termed activity classes. Each of these relates to the anticipated magnitude of effect, which will result from the proposed activity. All of the activities which have been regulated by rules in this plan have been grouped into one or other of the classes.

24.2 Permitted Activities

Para 1 A Permitted Activity is one that is allowed by the plan provided it complies with standard conditions specified in the plan. If the standard conditions cannot be met, the activity becomes discretionary.

Para 2 Permitted Activities are those, which Environment B·O·P believes can be carried out "as of right", provided that the conditions specified in the plan are complied with. Provided that the conditions specified in the rules are complied with, Environment B·O·P is satisfied that any adverse environmental effects will be minor. In this plan, if an activity that would normally be permitted but cannot be carried out to satisfy the standard conditions, it will be assessed as a for discretionary activity.

24.3 Controlled Activities

Para 1 A Controlled Activity is one that complies with standards conditions specified in the plan and is assessed according to the matters Environment B·O·P reserves control over. They are allowed only if a resource consent is obtained. Environment B·O·P must give consent for such activities, although it may place conditions on the consent.

Para 2 There are no controlled activities in this plan. Environment B·O·P, however, believes that some operations could well be in this category, but has been unable to develop meaningful, objective and enforceable standards in relation to river gravel excavation. This is because of a lack of detailed knowledge about matters, such as rates of erosion, gravel aggregation and cumulative effects of gravel excavation on rivers. Environment B·O·P intends to address these difficulties through a programme of research, monitoring, and discussions with relevant organisations.

24.4 Discretionary Activities

Para 1 A Discretionary Activity is one that is allowed only if a resource consent is obtained, and about which the plan may specify standards and terms. Environment B·O·P has the discretion to refuse consent for any activity under this category.

Para 2 Most activities coming under the ambit of rules are discretionary. Environment B·O·P has not specified any standards for the same reasons as explained under controlled activities.

Para 3 Without restricting the exercise of Environment B·O·P's discretion, the plan sets out the criteria against which applications will be assessed.

24.5 Non-complying Activities

Para 1 A Non-complying Activity is one that is provided for, as a non-complying activity, by a rule in a plan or proposed plan; or which contravenes a rule in a plan or proposed plan and is allowed only if a resource consent is obtained in respect of the authority.

Para 2 In effect, any operation that contravenes a rule in this plan is non-complying and will be assessed according to the criteria for discretionary activities.

24.6 Prohibited Activities

Para 1 A Prohibited Activity is one that the plan expressly prohibits and for which no consent can be granted.

There are no prohibited activities in this plan.

25 Appendix 5: Relevant Regional Policies and Methods

Para 1 Policies and methods contained in the Regional Policy Statement that are of relevance to this plan are:

5.3.1(b)(iv), Treaty of Waitangi – status and rights;
5.3.2(c)(ii) and (iii), Waitangi Tribunal – principles of the Treaty;
5.3.3(b)(ii), affected parties and groups – consultation;
5.3.3(c)(iv), tangata whenua – consultation;
5.3.6(c)(iii), social, economic and cultural wellbeing;
5.3.8(c)(ii), cross boundary issue resolution;
5.3.11(c)(vii), monitoring, impact and compliance – documentation and reporting;
5.3.11(c)(viii), monitoring and assessing performance;
6.3.1(b)(ix), protect water quality – from the effects of land use;
6.3.1(b)(xi), integrated management of minerals including aggregates;
6.3.1(c)(vi), access to minerals;
8.3.1(b)(iv), water quality – avoiding adverse effects on;
8.3.3(b)(iv), water related values – avoidance of adverse effects;
11.3.1(b)(xii), maintain existing flood protection works;
11.3.1(c)(vi), hazard control;
11.3.1(c)(x), maintenance existing flood protection works; and
11.3.1(c)(xviii), control of the use of land for flood control.

26 Appendix 6: Iwi Management Plans

Title	Relevant Iwi	Date of Document
Tuwharetoa Ki Kawerau Strategic Plan	Tuwharetoa Ki Kawerau	April 1991
Energy Assets Report	Te Ika Whenua	1993
Tribal Policy Statement on Resource Management	Nga Aukati Taonga o Tapuika me Waitaha (Te Arawa)	April 1993
Iwi Resource Management Strategy Plan	Te Runanga o Ngati Pikiao (Te Arawa)	June 1993
Iwi Resource Management Strategy Plan	Te Arawa Maori Trust	June 1993
Whakatohea Resource Management Plan	Tawharau o Nga Hapu o Whakatohea	July 1993
Resource Management Plan	Ngati Pukenga	September 1993
Ngaiterangi Iwi Resource Management Plan	Te Runanga o Ngaiterangi	February 1995

Note: Any persons who wish to access these documents will require the consent of the relevant Iwi.