Welcome Bay

Sub-Catchment Action Plan 2012

The Welcome Bay Sub-Catchment Action Plan is one of a series produced for the sub-catchments surrounding Tauranga Harbour. The aim of this action plan is to provide an analysis of the current land management issues, a summary of the available physical resources in the Welcome Bay sub-catchment, and action for land and resource use of the sub-catchment.

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Bay of Plenty
REGIONAL COUNCIL

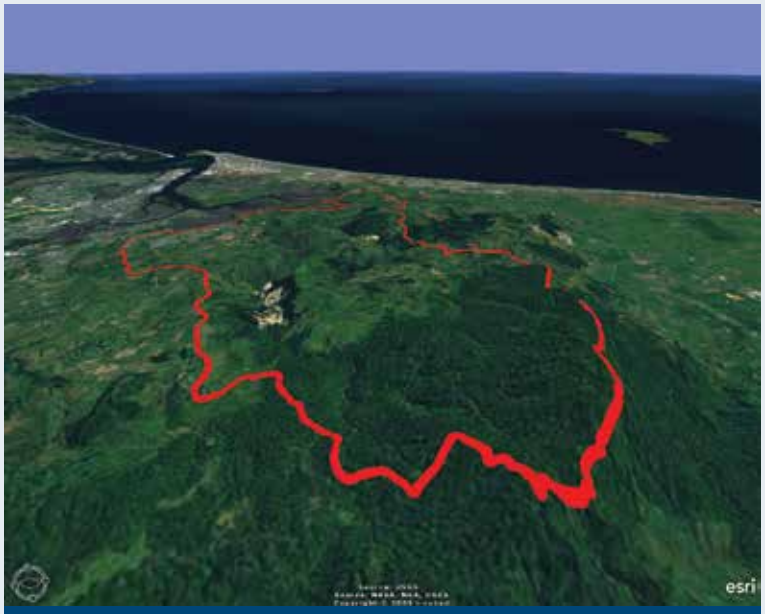
Introduction

The Welcome Bay sub-catchment is located to the east of Tauranga City. It is approximately 5159 hectares in area and flows in a northerly direction from Otawa to Tauranga Harbour. The sub-catchment is part of the Ōtānewainuku ecological district.

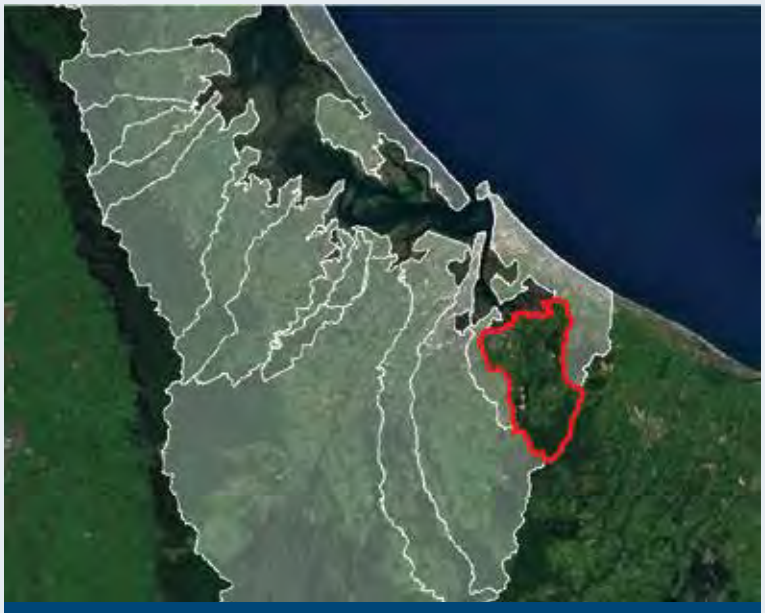
The catchment is approximately 5.5 kilometres (km) wide and 11.5 km long. It includes 85 km of streams and 9.8 km of harbour margin. The primary streams in the sub-catchment are the Waitao, Owairoa (Kaiate) and Arateka, which are 13.8 km, 9 km and 11.9 km respectively. There are approximately 31.3 km of tributaries of these primary streams including the Waioraka stream. There is also 19 km of small unnamed streams that flow directly into the Tauranga harbour. All streams and tributaries in this sub-catchment are classified as aquatic ecosystem streams and are recognised as migratory pathways for indigenous fish species.

A large proportion of the steeper land in the Welcome Bay sub-catchment is made up of lifestyle blocks. There are only a few pastoral farms in the Welcome Bay sub-catchment where the primary source of income is from farming.

The geology of the sub-catchment is derived from Taupō and Tūhua Tephra, overlying loess and weathered rhyolitic tephra. Catchment soils are derived from air-fall ash and belong to the Te Puke soil series. Soils on the stream flats are recent and consist primarily of Pahoia, Te Matai and Te Puna silt loam; however the main soil types are Te Puke sandy loam and Te Puke hill soils. Volcanic in origin, these soils are resilient, well drained and fertile but vulnerable to erosion if exposed due to conditions such as inadequate vegetation cover or root system binding.



Source: BOPRC, ESRI, i-cubed, USGS, NASA, NOA



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Land management

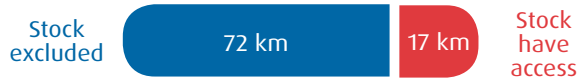
What is the problem?

Livestock access to a stream degrades water quality by increasing nutrients, faecal matter and sediment entering the waterway. Stock access can increase stream bank erosion through damage to the soil structure by treading, and clearance and degradation of vegetation on the stream bank by treading and consumption. Water quality may also be degraded by the addition of excess nutrients to the stream in the form of fertilisers, farm runoff and urine patches. These and other pollutants are generally unintentional by product of activities such as farming and construction.

What will we do about it?

- Promote riparian margin fencing along streams to exclude stock and protect water quality
- Establish riparian margin planting, which can reduce pollutants entering streams through surface runoff by acting as a filter
- Encourage stock stream crossings, such as bridges, to protect the water quality of streams.
- Support retirement of steep erodible land.
- Protect existing areas of indigenous biodiversity (ie bush)
- Protect existing wetland areas
- Work with other agencies and other sections of Regional Council to ensure consistent land and water quality management.

Current riparian margin fencing protection:

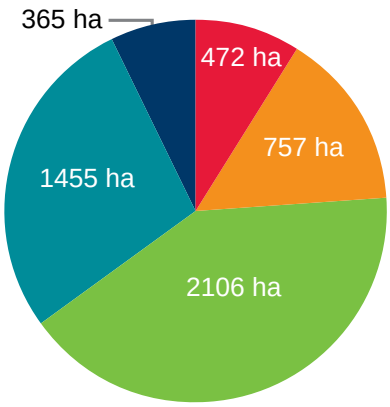


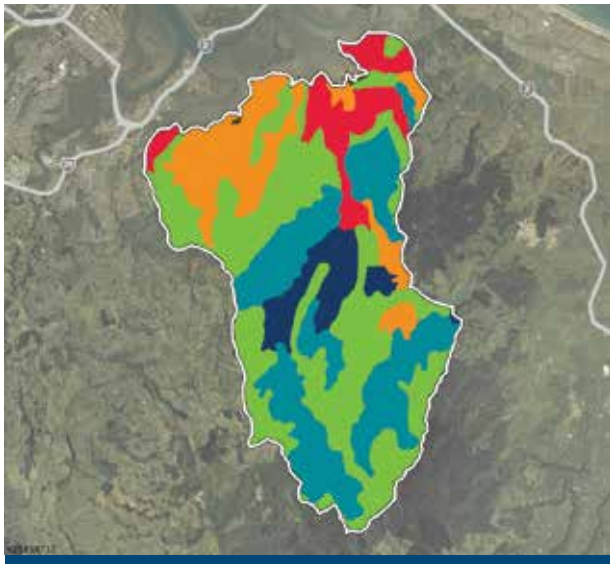
Current riparian margin planting:

Land use capability classification in the Welcome Bay sub-catchment

Sustainable land use and management is essential to ensure the Bay of Plenty region maintains clean waterways, productive soils, and indigenous biodiversity. How the land is used and managed can have a direct effect on its potential for long-term sustainability.

The majority of land in this sub-catchment is Land Use Capability (LUC) Classes 6 and 7; rolling, steep and very steep landscapes respectively. Both LUC Classes 6 and 7 land are located in the middle and upper catchment. Highly productive LUC Classes 2, 3 and 4 land are primarily restricted to the lower catchment.



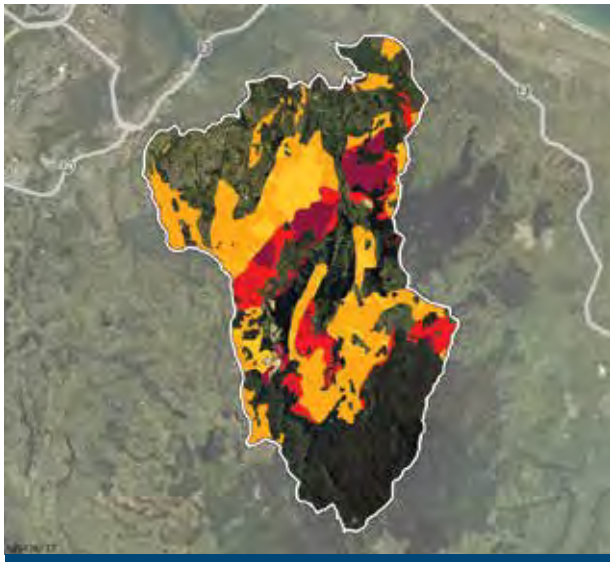


Land use capability classification in the Welcome Bay sub-catchment

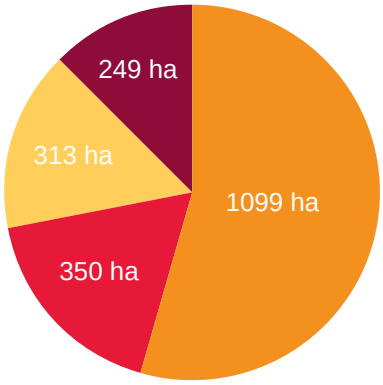
LUC Class	LUC Units	Percent
3	3e 1, 3e 2,3w 1	9
4	4e 1, 4e 2, 4w 1	15
6	6e 1, 6e 3, 6e 4, 6e 7, 6w 1	41
7	7e 1, 7e 2, 7e 11	28
8	8e 4	7

Erosion risk in the Welcome Bay sub-catchment

A high proportion of Land Use Capability Classes 6 and 7 land in the Welcome Bay sub-catchment are medium to high risk erosion prone land due to pastoral land use.

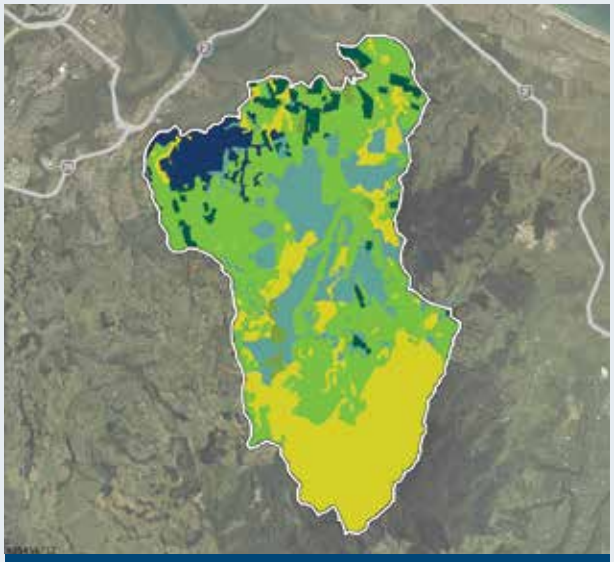


Erosion risk in the Welcome Bay sub-catchment



Land Use	Risk	Percent
Pasture	Medium	21
Pasture	High	7
Exotic forest	Medium	6
Exotic forest	High	5

Land cover in the Welcome Bay sub-catchment



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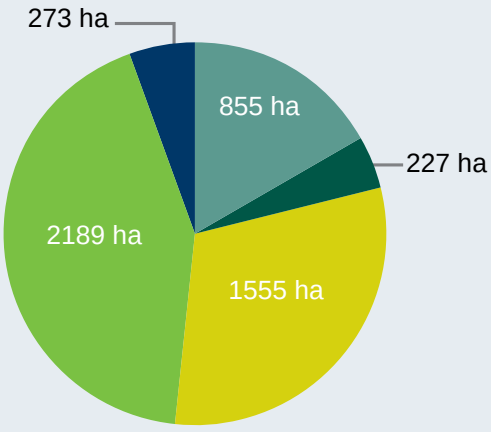
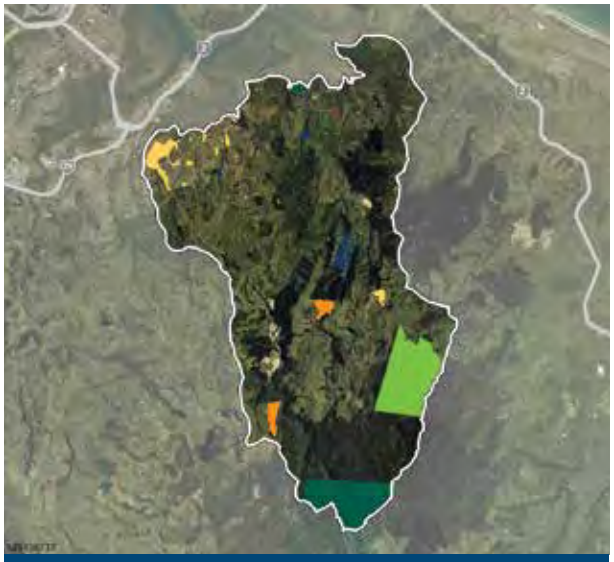


Vegetation	Percent
Exotic	17
Horticulture	4
Indigenous	30
Pasture	42
Urban	5

Existing protection status in the Welcome Bay sub-catchment



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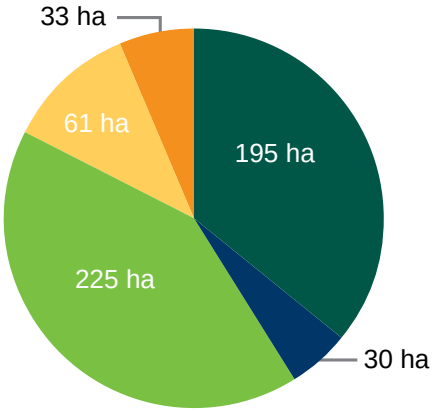

Class	Percent
DOC Reserve	4
BOPRC Covenant	1
Nga Whenua Rāhui	4
District Reserve	1
WBOPDC Covenant	1

Case study

Together, neighbours Bill Hayes and Kevin Jones have fenced off more than 3000 metres of the Kaiate Stream directly above the Kaiate Falls Reserve. The reserve is known for having high levels of E coli in the water, sometimes making the reserve unsafe for swimming. Fencing to exclude stock and planting the riparian margin is important for stabilising the top soil, attracting native birds and insects and improves the health of the stream by shading the water and trapping nutrients that are washed off the land.

Bill and Kevin are also part of the local Waitao Kaiate Environmental Group. The group aims to enhance the biodiversity value in their area by propagating native plants from locally sourced seeds and planting riparian margins and wetlands on properties in the valley. Bill and Kevin, as part of the care group, have each planted thousands of native plants on their properties. “Its been hard work, but we have noticed a visible reduction in sediment entering the stream” said Bill.

Kevin and Lindi Jones with neighbour and fencer Russell Nelson by their newly completed protection fence

Landowner Bill Hayes with neighbour Anne Hollaway at a 2012 Waitao Kaiate Environmental Group planting day

Land management survey 2011

Field work

In developing the Welcome Bay Sub-Catchment Action Plan, Bay of Plenty Regional Council surveyed 59 properties located within the catchment area between November 2010 and February 2011. The properties surveyed account for 34 percent of the catchment area. Priority was given to large properties that had waterways flowing through them or along their boundary. Areas with a formal protection mechanism were not surveyed as these already have action plans in place. Field work included an assessment of land use, steam margins, erosion features and biodiversity features.

The table summarises the field work undertaken by Bay of Plenty Regional Council:

Land use	▪ Type and rationale ▪ Land Use Capability classification based on physical resources present
Stream margins	▪ Protection measures (if any) in place ▪ Their general condition and upkeep ▪ Estimate of their extent (both protected and unprotected) ▪ GPS track of any stream channels not evident in the GIS database maps
Erosion features	▪ Estimation of size and trend direction ▪ Photographs and GPS points (either at the site of the feature or where a photo was taken of it) for future reference
Biodiversity features	▪ Estimation of extent of land area covered and the type of vegetation (e.g. native, introduced species)

Land owner feedback

Bay of Plenty Regional Council held a meeting with land owners on 4 October 2011. The purpose of the meeting was to gather the concerns, challenges and priorities of land owners in the Welcome Bay sub-catchment area. The following list provides a summary of the land management issues raised by land owners:

- Erosion from road batters;
- Hillside erosion;
- Streambank erosion;
- Sedimentation;
- Education and information concerns; and
- Wider promotion of funding options for riparian and biodiversity protection.

Iwi/hapū feedback

Welcome Bay lies within the rohe of several iwi/hapu. The main concerns, priorities and challenges regarding the natural environment identified by tangata whenua include:

- The iwi and hapū support any action which results in the improvement of water quality particularly with regard to importance of using the streams and harbour for kaimoana gathering and swimming;
- It is important to tangata whenua that Regional Council support the owners of Māori land to improve water quality and biodiversity;
- It is important that remaining remnant native bush is protected and restored;
- It is a high priority to the iwi/hapū to protect culturally significant sites in the catchment;
- Traditional walking routes should be open for public use;
- Building capacity for young Māori to learn about/ work in the resource management field within their rohe;
- A catchment wide holistic approach to conservation and environmental restoration was emphasised;
- It is important that the mauri of the natural environment is protected; and
- Facilitate environmental restoration by way of kaitiaki.

Actions

The three main land management issues common to the surveyed properties in the Welcome Bay sub-catchment areas are set out in the table below. Proposed actions to maintain and improve riparian protection, erosion, unsuitable land use and biodiversity loss within the catchment area are listed along with who is involved to implement the action.

Land management issues and solutions

Actions	Milestones	Who is involved?
Improving riparian protection ▪ Work with landowners to apply sustainable land use methods and practices to maintain and/or repair streambanks and to improve water quality. ▪ Remove all stock access to streams, fence remaining 17km and instigate planting of 33.2km of riparian margins to eliminate the effects of livestock, polluted water runoff and erosion. ▪ Instigate necessary remedial works to stream margins such as bank re-contouring, riparian planting and engineering works using relevant legislation relating to riparian management. ▪ Tailor site specific solutions.	1.2km of new riparian fencing per year	▪ Bay of Plenty Regional Council ▪ Landowners ▪ Western Bay of Plenty District Council ▪ NZ Landcare Trust working with community care groups
Improve erosion control and appropriate land use practices ▪ Apply property level management plans to LUC classes 6 and 7 pastoral and forestry land that have been identified as eroding or at risk of eroding. ▪ Promote the need for land use change on LUC class 7 land pastoral land – advocate land retirement, forestry and suitable stock regimes. ▪ Work with landowners to apply soil and water conservation methods and good land management practice to maintain and/or repair landscapes. ▪ Increase awareness of the impact of high stocking rates of cattle and deer on steeper slopes. ▪ Encourage landowners to apply appropriate land management practices.	50 properties with 'at risk' land have management plans by 2022	▪ Bay of Plenty Regional Council ▪ Landowners ▪ Western Bay of Plenty District Council ▪ Department of Conservation ▪ NZ Landcare Trust working with community care groups
Improve biodiversity protection and enhancement ▪ Advocate further covenanted areas within the sub-catchment ▪ Continue tree planting on private land in native or non-invasive exotic species ▪ Liaise with Waikato Regional Council and Department of Conservation and ensure coordinated management of the Kaimai Mamaku Range and its catchments as part of the Kaimai Catchments Project ▪ Work with landowners and community groups to protect identified biodiversity areas in the sub-catchment by establishing native plant populations and controlling nuisance populations of pest plants and animals.	By 2022 an additional 36 sites, including the two High Value Ecological Value sites are managed for biodiversity protection and enhancement.	▪ Bay of Plenty Regional Council ▪ Landowners ▪ Western Bay of Plenty District Council ▪ Department of Conservation ▪ Community Care Groups ▪ NZ Landcare Trust working with community care groups

Monitoring

Welcome Bay catchment action plan key performance indicators (KPI's)

	Key performance indicator	Welcome Bay sub-catchment targets							
		Current	Year 1*	Year 2*	Year 3*	Year 4*	Year 5*	Years 6*-10	Total
Soil and water	Km of riparian margins excluded from stock.	80% - 72 km	1 km	1 km	1 km	2 km	2 km	1 km	12 km
	Number of properties 'at risk' for erosion which are managed by a property management plan.	New measure	5	5	5	5	5	5	50
Biodiversity	Identified High Value Ecological Sites (HVES) on private land that are under active management.	New measure	0	1	0	1	0	0	2
	Number of areas of indigenous forest or wetland being actively managed by the community to protect their biodiversity values.	New measure	2	2	3	3	4	4	34

Note: The progress to achieve the targets will be reported on annually.
**Year 1 ends at 30 June 2013, Year 2 ends at 30 June 2014 etc.*

For more information call a Land Resources Administration Officer on 0800 884 880.

Bay of Plenty REGIONAL COUNCIL

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