

CULTURAL IMPACT ASSESSMENT

OceanaGold (NZ) Ltd

Coronation North Project



Intellectual Property Rights

This report has been prepared for OceanaGold (NZ) Ltd (OGL) on behalf of Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou (Ngā Rūnanga).

Intellectual property rights are reserved by Ngā Rūnanga and OGL.

Acknowledgement

The preparation of the cultural impact assessment for the Coronation North Project was undertaken with the assistance of the following groups:

- Te Rūnanga o Moeraki
- Kāti Huirapa Rūnaka ki Puketeraki
- Te Rūnanga o Ōtākou

Front Cover Photograph: Haast's Eagle (*Harpagomis moorei*) Sculpture by Mark Hill at Macraes. Source: Kāi Tahu ki Otago Limited, 27 April 2016.

Version: September 2016

	
KTKO Ltd Level 1 258 Stuart Street PO Box 446 Dunedin Tel: 03-477-0071	Prepared by: Nyssa Payne-Harker and Kathryn Gale
	Reviewed By: Te Rūnanga o Moeraki Kāti Huirapa Rūnanga ki Puketeraki Te Rūnanga o Ōtākou
	Report 1 of 1 For OceanaGold (NZ) Ltd

Contents

1. Introduction	4
2. Methodology	4
3. Project Description	6
4. Tāngata Whenua.....	13
5. Cultural Values Approach to Resource Management	16
6. Cultural Association with East Otago	19
7. Statutory Framework	23
8. Cultural Values Assessment	25
9. Recommendations	29
10. Conclusion	30
11. Bibliography	32
Appendix 1: Statutory Acknowledgement for Taonga Species	34
Appendix 2: Relevant issues, objectives and policies of the Kāi Tahu ki Otago Natural Resource Management Plan 2005.....	39

1. Introduction

The East Otago area was of singular importance to the Waitaha, Kāti Mamoe, and Kāi Tahu¹ people as a source of mahika kai², a place of settlement, a burial place, and as a wāhi tūpuna (ancestral landscape) that embodied the ancestral, spiritual and religious traditions of all the generations prior to European settlement. East Otago is therefore an important taoka tuku iho (treasure handed down by the ancestors) for Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou (Ngā Rūnanga).

OceanaGold (New Zealand) Limited (OGL) has engaged Kāi Tahu ki Otago Limited (KTKO Ltd) to prepare a cultural impact assessment (CIA) for the Coronation North Project (the Project). This CIA documents the potential impacts of the Project on Kāi Tahu cultural values, interests and associations within the East Otago area.

This report should not be seen as all the consultation required with Ngā Rūnanga, but as a basis for ongoing consultation and discussion between OGL and Ngā Rūnanga.

2. Methodology

It is important to note that this assessment was completed *after* the application was lodged. Usually a cultural impact assessment would be commissioned during preparation of the Assessment of Environmental Effects and would inform decision-making.

Ngā Rūnanga accept the use of a review condition to enable concerns raised in the CIA to be addressed at a later date. A preferred method of engagement would involve earlier consultation with Ngā Rūnanga and the opportunity for Ngā Rūnanga to provide a cultural impact assessment prior to the lodgement of the application.

The following methodology was used for undertaking this cultural impact assessment:

Project Briefing and Site Visit

Representatives of KTKO Ltd (Kathryn Gale) and Kāti Huirapa Rūnaka ki Puketeraki (Dr Lyn Carter & Dr Katharina Ruckstuhl) undertook a site visit on 27 April 2016.

¹ In the south of the South Island, the local Māori dialect uses a 'k' interchangeably with 'ng'.

² Places where food or resources for customary use were obtained or produced

Representatives from Kāti Huirapa Rūnaka ki Puketeraki (Brendan Flack and Ron McLachlan) attended an additional site visit on 15th September 2016.

Review of the Project Documentation

KTKO Ltd reviewed the Assessment of Environmental Effects (AEE).

Literature Review

An initial literature review was undertaken that drew together the relevant resources relating to the association of Ngā Rūnanga with East Otago.

The review collected information from a variety of sources including:

- Cultural Evidence of Kāi Tahu Whānui;
- Previous submissions and cultural impact assessments within East Otago;
- Kāi Tahu ki Otago Natural Resource Management Plan; and
- Statutory Acknowledgement for Taonga Species

Key Informant Interviews

Interviews were undertaken with key informants on the cultural association of Ngā Rūnanga with East Otago and on the impact of the proposal on cultural values.

Preparation and Review of the Cultural Impact Assessment

A draft cultural impact assessment was prepared and submitted to Ngā Rūnanga for review. The cultural impact assessment was revised in light of comments received.

Handover of the Cultural Impact Assessment

The cultural impact assessment was handed over to Ngā Rūnanga and OGL for implementation.

3. Project Description

OGL are seeking an extension to the existing consented Coronation project and development of the new Coronation North project at Macraes Gold Project (MGP). The estimated duration of the operation and rehabilitation phases of the Project will be approximately 5 years and the Project will add approximately 3 years of operations to the MGP mine life.

The main elements of the Project are:

- An extension of Coronation Pit
- Reduction in the size of the Coronation Waste Rock Stack
- Construction of Coronation North Pit
- Construction of Coronation North Waste Rock Stack
- Potential construction of a freshwater dam in the Coal Creek catchment
- Variation of the realignment of Matheson Road
- Construction of temporary buildings

Extension of the existing consented Coronation Pit

Coronation Pit will be extended from a total area of approximately 62ha to approximately 85ha (an increase of 23ha). The extension will be primarily to the southern end of the Coronation Pit, expanding from the currently consented edge of the pit, as shown in Figure 1. The expanded Coronation Pit will continue to be opportunistically partially backfilled where practicable and a pit lake will remain on closure.

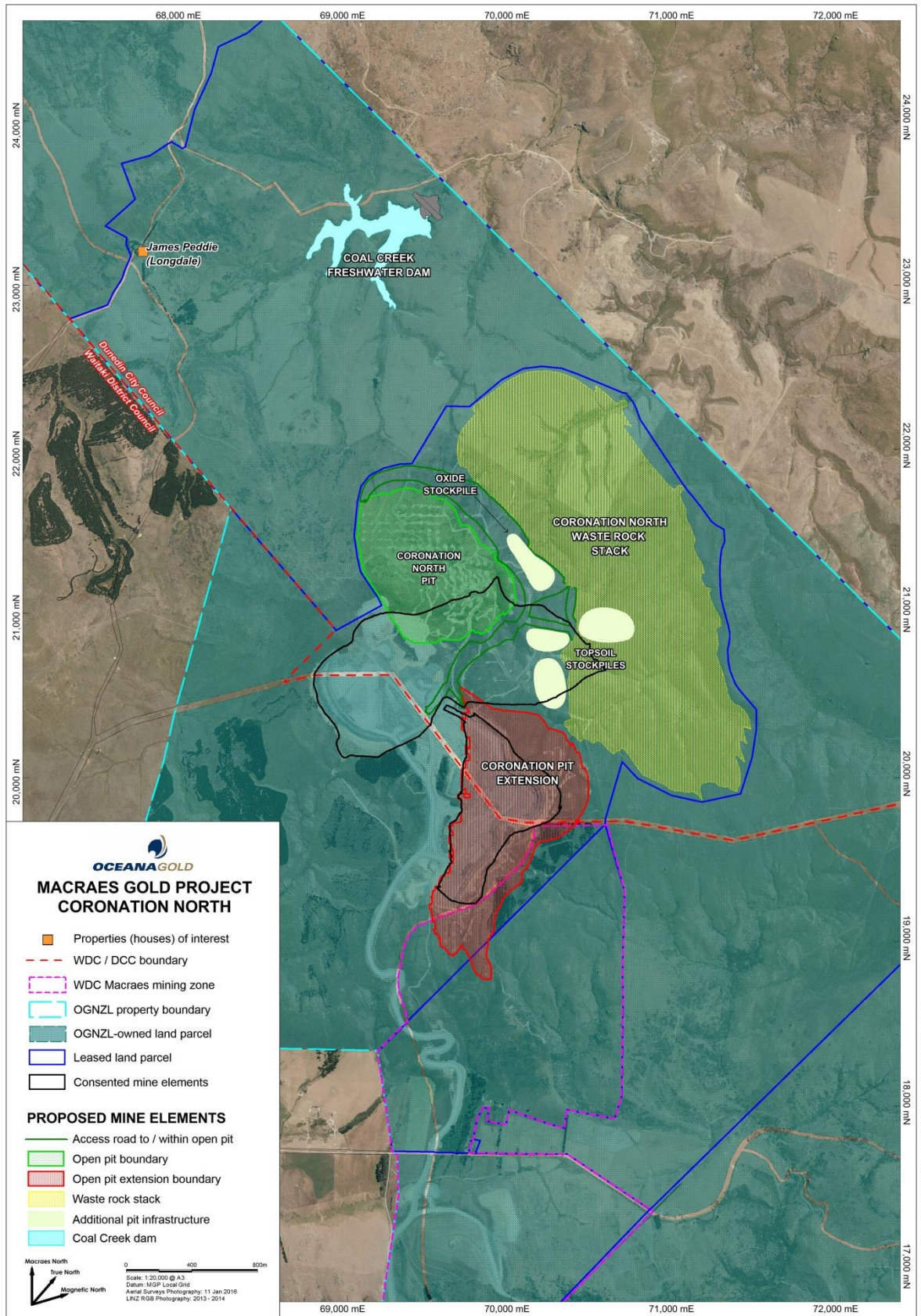


Figure 1: Components of the proposed Coronation North project

Reduction in size of the consented Coronation Waste Rock Stack

The total volume of waste rock will reduce from a currently consented 94Mt / 105 ha to approximately 29Mt / 41 ha. This is a reduction of approximately 60%. The consented maximum height of the Coronation Waste Rock Stack will remain 730 metres mean relative level (equivalent to metres above sea level).

Coronation North Pit

A new pit (Coronation North Pit) will be developed within the area of the existing Coronation Waste Rock Stack, as shown in Figure 1. Coronation North Pit will cover a maximum potential area of 63 ha, will be opportunistically partially backfilled where practicable and will become a pit lake upon closure.

Coronation North Waste Rock Stack

The new Coronation North Waste Rock Stack will be constructed to the north east of the existing Coronation Waste Rock Stack, as shown in Figure 1.

If constructed to its greatest extent the total volume of waste rock will be a maximum of 280 Mt (a maximum potential area of about 230ha). The maximum height will be 695 metres relative to level.

Potential construction of a freshwater storage dam

All water from the Coronation North Pit and Coronation North Waste Rock Stack and any overflow from the Coronation Pit lake will flow to the Mare Burn catchment, a tributary of the Taieri River. This is shown in Figure 2.

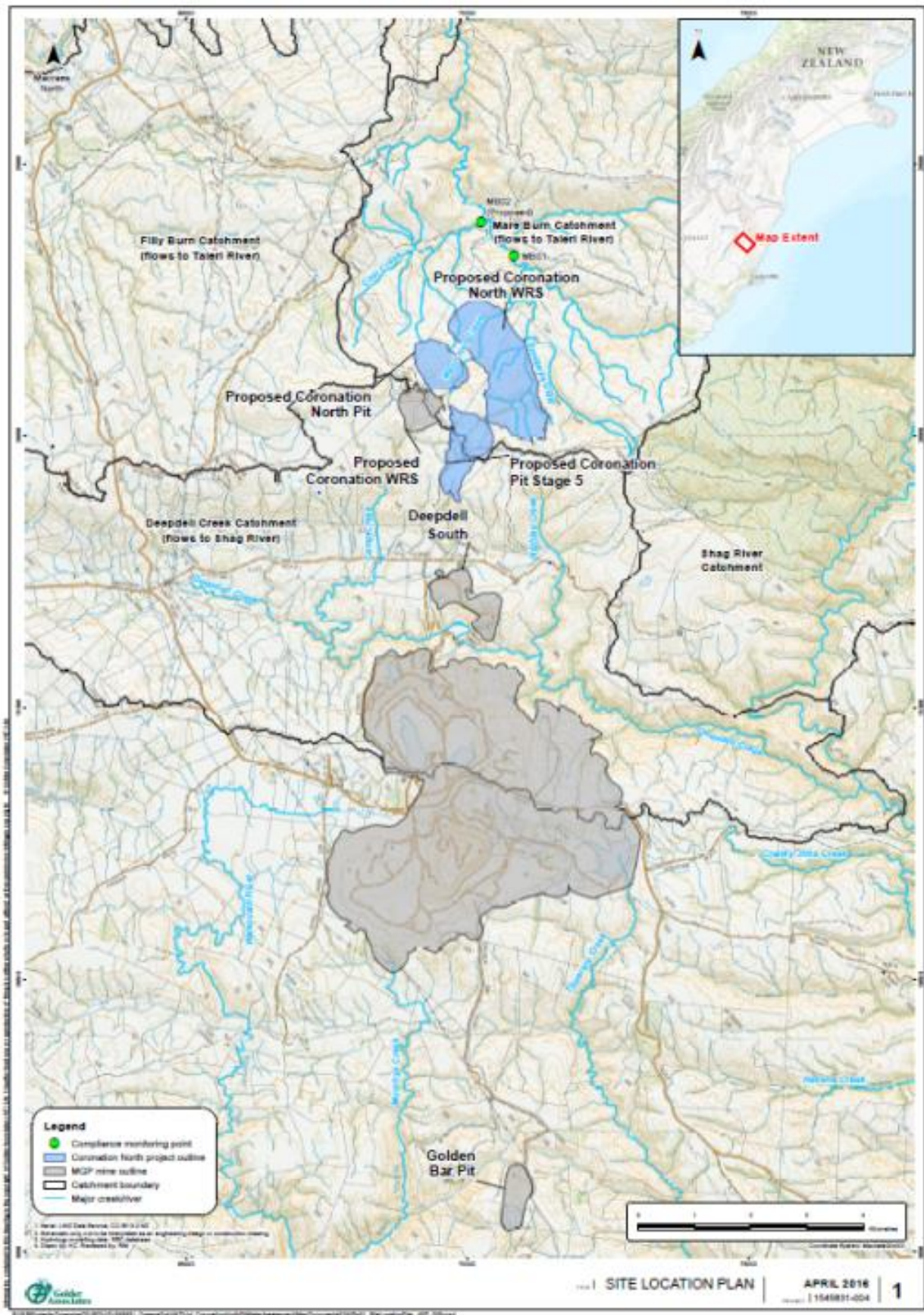


Figure 2: Catchments in the area of the proposed Coronation North project

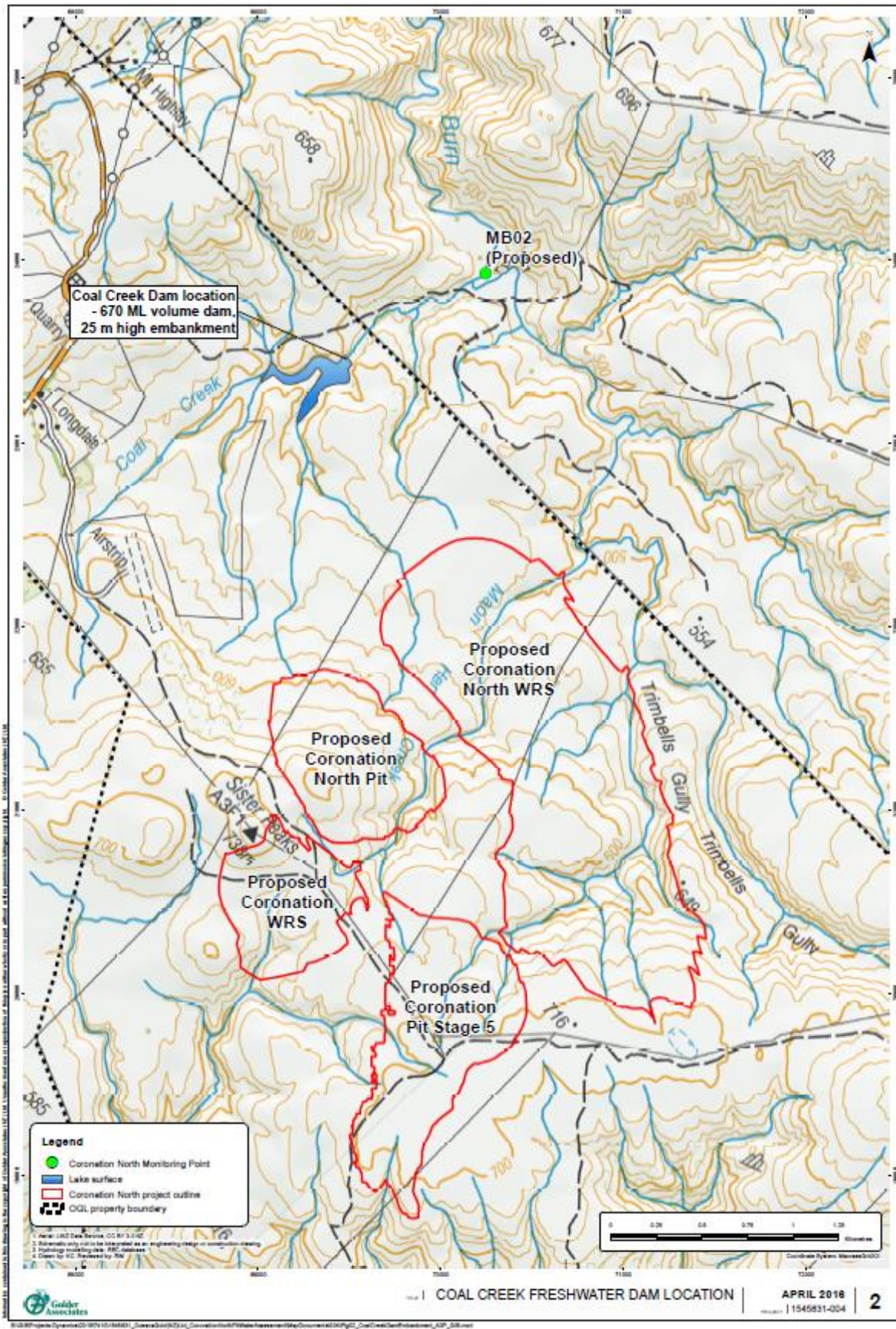


Figure 3: Location of the proposed Coal Creek Dam

A freshwater dam may be constructed within Coal Creek catchment for water quality purposes. The freshwater dam would be placed in the location shown in Figure 3.

A primary concern with water quality is the seepage of sulfate from the waste rock stack. The proposed dilution dam will enable the Coronation North Project to meet proposed consent criteria for water quality limits by diluting the sulfate concentration of the water. The dam will provide a constant flow of approximately 5 litres per second to the Mare Burn, which is a naturally ephemeral waterway.

The proposed dam will consist of an embankment with an approximate height of 27m behind which approximately 685 million litres of water will be stored when at full capacity.

Ngā Rūnanga understands that other ways to prevent sulfate leaching are currently being investigated. Whether the dam would be built had not been determined at the time of writing this CIA. For the purposes of this report it is presumed that the dam will be constructed.

Variation of the realignment to unformed Matheson Road

The Project consent conditions provide for unformed Matheson Road to be realigned and unformed public access (15 metres wide) to be provided around the consented Coronation Pit and waste rock stack when mining operations cease as shown in Figure 4.

As the footprints of the Coronation North Pit and Coronation North Waste Rock Stack overlap with the consented realignment, OGL will identify an alternative route for the realigned Matheson Road and apply to vary the Coronation land use consent.

The existing haul road will be extended by about 2km to the north to reach the Coronation North Pit.

As is currently occurring, ore will be hauled from the pits to the Macraes processing plant via the existing haul road across Horse Flat Road and along the Golden Point Road alignment to the processing plant.

Construction of new temporary buildings

New temporary buildings (including toilet facilities and crib room) may be located adjacent to the Coronation North Pit.

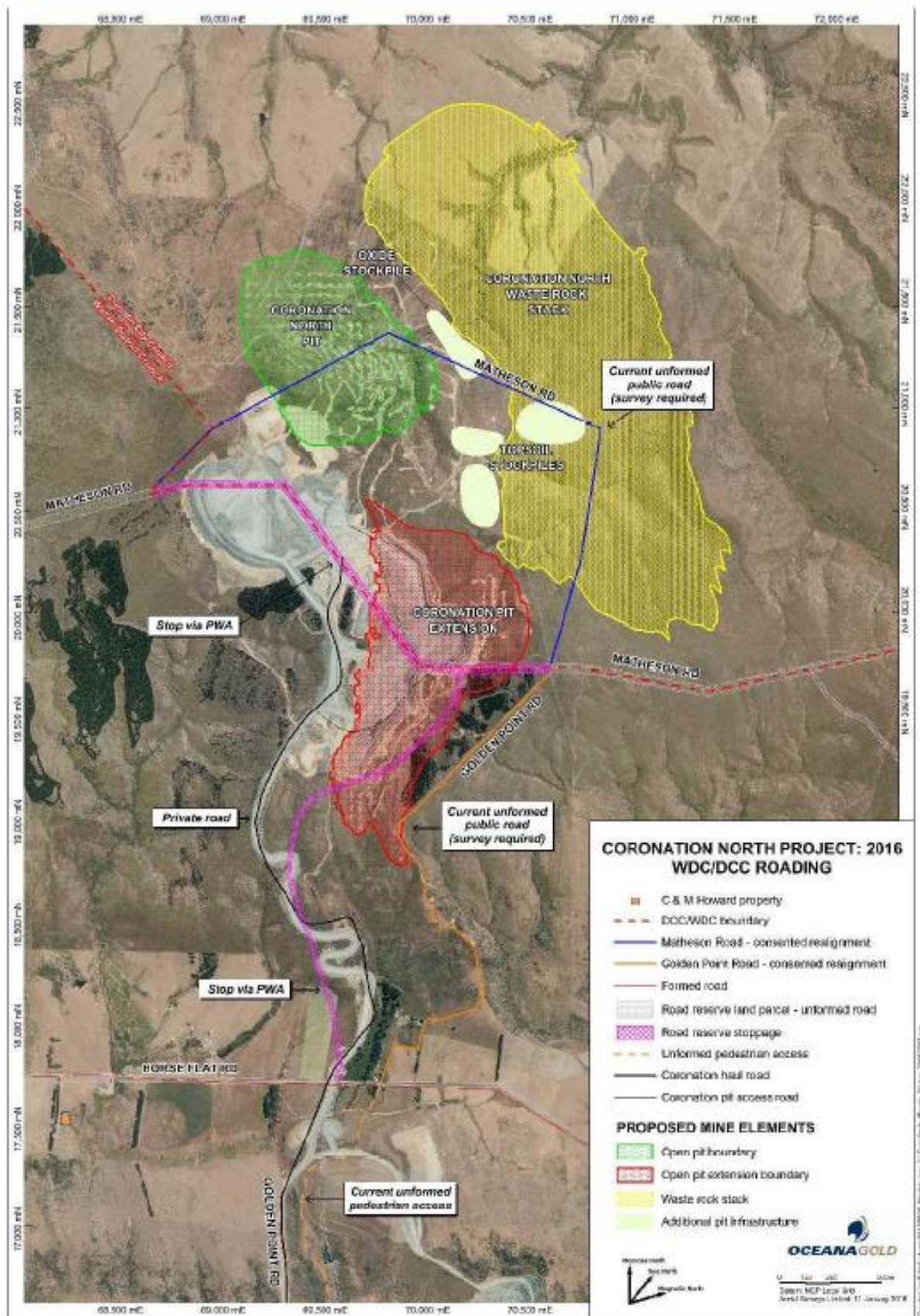


Figure 4: Location of Matheson Road

4. Tāngata Whenua

Introduction

‘Tāngata Whenua’ literally means ‘people of the land’ and is often used to refer to the whānau (families), hapū (sub-tribes) or iwi (tribes) of a particular area who are recognised as holding the traditional rights and responsibilities within that area to manage and govern natural resources. Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki and Te Rūnanga o Ōtākou are tāngata whenua within the area of influence of the Coronation North Pit project. These Rūnanga share interest inland in the lakes and mountains to the western coast.

Te Rūnanga o Moeraki



**Figure 5: Ki Uta ki Tai (From the Mountains to the Sea)
Uenuku Marae, Moeraki**

The takiwā of Te Rūnanga o Moeraki is based at Moeraki and extends from the Waitaki River to the Waihemo (Shag) River. The interests of Te Rūnanga o Moeraki are concentrated in the Moeraki Peninsula area and surrounds, including Te Rakahineatea Pā, Koekohe (Hampden Beach), and Te Kai Hinaki (the Boulders Beach) with its boulders. In addition, the interests of the Rūnanga extend both north and south of the Moeraki Peninsula, within their takiwā.

Kāti Huirapa Rūnanga ki Puketeraki

The takiwā of Kāti Huirapa Rūnanga ki Puketeraki centres on Karitane and extends from the Waihemo (Shag) River to Purehurehu (north of Heywards Point). The strategic headlands for the Rūnanga are Cornish Head, Huriawa, Pā Hāwea, Brinns Point, Mapoutahi and Heywards Point.

The people that lived in this area chose to do so because of the abundance of kaimoana and mahika kai. Mataīnaka Lagoon (Hawkesbury Lagoon) was a major whitebait spawning area and was highly treasured for the catching of this delicacy. The Waikouaiti River was an abundant source of tuna (eel), pātiki (flounder), shellfish and whitebait. Waimataitai Lagoon (Goodwood) was an important whitebait area. Okahau (Blueskin Bay) is a rich resource of shellfish, and Warrington surf beach is a place where frost fish are picked up. Many species of shellfish and fish can still be caught off the rocks at Huriawa, Puketeraki and Brinns Point.



Figure 6: Puketeraki Marae

Te Rūnanga o Ōtākou

The takiwā of Te Rūnanga o Ōtākou centres on Ōtākou (on Otago Peninsula) and extends from Purehurehu to Te Matau and inland, sharing an interest in the lakes and mountains to the western coast with Rūnanga to the north and south. The Taieri River is within the takiwā of Te Rūnanga o Ōtākou.



Figure 7: Ōtākou Marae

5. Cultural Values Approach to Resource Management

Ngā Rūnanga take a values based approach in assessing the impact of activities on the environment. That is, the impact of activities on the environment and on associated cultural values is the key measure for determining the acceptability of a proposal. This cultural values approach encompasses the interrelated cultural values, associations and relationships between Kāi Tahu and the environment, and the holistic interrelationships between the constituent parts of the environment including tāngata whenua, respectively:

	Whakapapa and Whakawhanaungatanga <i>Whakapapa provides the framework, within which whakawhanaungatanga (relationships) connects people to one another and to the environment.</i>
	Tikanga Māori and Kawa <i>Tikanga Māori (customary knowledge handed down by the tūpuna) and kawa (methods and practices) ³</i>
	Kaitiakitaka, Ki Uta Ki Tai, Mahika Kai, Mauri Rakatirataka, Taoka Tuku Iho, Wāhi Tapu
	Wai Māori / Wai Tai <i>(Estuaries, Hapua, Lakes, Rivers, Waipuna, Wetlands, Moana)</i> Papatūānuku

³ Tikanga Māori is the knowledge base and kawa is the local practice of that knowledge. Please note that the definition of tikanga Māori and kawa is fluid between hāpu.

“Of all the values of tikanga Māori whanaungatanga is the most pervasive. It denotes the fact that in the traditional Māori thinking relationships are everything – between people; between people and the physical world; and between people and the atua (spiritual entities). The glue that holds the Māori world together is whakapapa identifying the nature of relationships between all things.”⁴

This section discusses the cultural values that make up the values based approach to resource management. The discussion of cultural values is not intended as an exhaustive review of this subject. Rather, the intent is to provide a conceptual framework for understanding the Kāi Tahu perspective on the management of the environment.⁵

Whakapapa and Whakawhanaungatanga

Whakapapa binds Kāi Tahu to the natural environment of Te Wai Pounamau. This shared whakapapa confirms that all things are from a common source. Therefore, Kāi Tahu do not see themselves as separate from the natural world. This interconnectedness (whakawhanaungatanga) of all things means that any alteration to the health and welfare of the natural world will directly impact on the health and welfare of the people.

Tikanga Māori and Kawa

Tikanga Māori and Kawa refers to Māori customary values and practices. Maintaining mahika kai sites, gathering resources, and continuing to practice the tikanga that governs each resource, is an important means of passing on cultural values and mātauranga Māori (traditional knowledge) to the next generation.⁶

Kaitiakitaka

Kaitiakitaka is an inherited responsibility of those who hold mana whenua to ensure that the life-supporting capacity (mauri) of the natural resources of their takiwā is sustained. Ngā Rūnanga are kaitiaki for the Coronation North Project area and are responsible for ensuring that its natural resources are available for Kāi Tahu whānau to use now and in the future.

⁴ *Environment Court: Ngati Hōkupu v Whakatane* DC C168/02. Paragraph 39. From Maori Custom and Values in New Zealand Law, NZ Law Commission, Paragraph 130, citing an unpublished paper written for the Commission by Joseph Williams (“He Aha Te Tikanga Maori”)

⁵ This is the approach adopted by Gail Tipa (2011)

⁶ Potiki, T (2011)

Ki Uta Ki Tai

He taura whiri kotahi mai ano te kopunga tai no i te pu au

From the source to the mouth of the sea all things are joined together as one

In accordance with tikanga Māori, a holistic approach should be taken to the management of the natural environment. This world view is articulated in the Kāi Tahu ‘ki uta ki tai’ philosophy, which is a holistic, culturally based ‘mountains to the sea’ natural resource management framework.

Mahika kai

Mahika kai is one of the cornerstones of Kāi Tahu cultural identity. Mahika kai is a term that literally means “food workings” and refers to the places where food is gathered or produced. The term also embodies the traditions, customs and collection methods, and the gathering of natural resources for cultural use.

Mauri

All things possess a mauri or life force. The primary management principle for Māori is the protection of the mauri of an ecosystem. If the mauri of the natural environment is degraded it no longer has the capacity to support cultural uses and values.

Rakatirataka

Rakatirataka is about the ability of tāngata whenua to exercise customary authority over natural resources, including mahika kai and other taoka tuku iho, within their takiwā (tribal area). Rakatirataka is inextricably linked to kaitiakitaka.

Taoka Tuku Iho

Ngā taoka tuku iho are the treasures passed down by the ancestors. Ngā taoka tuku iho incorporates:

- All things prized, tangible and intangible, animate and inanimate.
- The concept of a resource; its utility and notions of sustainability; the wise use of resources; and the obligation to maintain the mauri.
- Respect for the past and the obligation to preserve resources, and cultural wealth and well-being, for future generations.
- Intrinsic values; and

- Cultural use, heritage, and amenity values.

Wāhi tapu and wāhi taonga sites

Wāhi tapu or wāhi taonga sites hold special historical, spiritual, or cultural associations for Kāi Tahu. These terms refer to places that hold the respect of the people in accordance with tikanga. In addition to urupā (cemeteries, burial grounds), physical resources such as landforms, mountains and ranges, remaining areas of indigenous vegetation, springs, and waterways are examples of wāhi tapu or wāhi taonga sites.

6. Cultural Association with East Otago

Cultural Sites in the Macraes Area⁷

An orthoquartzite quarry (NZAA reference I43/68) and a small settlement dating from the moa-hunter period (NZAA reference I43/96) are located within 8 km south of the Macraes Flat township. Many other sites including urupā, orthoquartzite quarries, rock-shelters, artefact (taoka) finds and umu occur in the same area within 10 km of Macraes Flat.⁸ These sites are evidence of the traditional use and importance of this area to tāngata whenua.

Many placenames along the East Coast originate from the waka Araiteuru. The names of the waves which wrecked the waka, plus the names of the many passengers of the waka are represented in the names of the reefs, hills, and mountains of East Otago.

Te Wai a te Atua is the name of a stream in the Nenthorn district, which may refer to 3 O’Clock Stream.⁹ Aside from the significant name, the site was a food gathering place where eel, weka and later pigs were taken by Māori.¹⁰ Finally, there are a variety of sites of interest to iwi lining the Waihemo Valley, and parts of the upper catchment of the Waikouaiti River.

⁷ Allingham (2011).

⁸ Trotter, Field note book pp.149 – 151; 1961: 29 - 32

⁹ Beattie, 1944, p.34

¹⁰ Ngāi Tahu 1880, p.139, No.31

Resource Use in the Macraes Area¹¹

In addition to the mineral resources that were found in the upper Waikouaiti Catchment, the area known today as Macraes Flat contained many natural resources that were valued by Māori. Streams and ponds contained raupō and tuna (eels), and supported water fowl that would be harvested during the seasonal moult (flappers). Forested gullies housed a range of birds and provided timber. Open tussock grassland originally supported weka, quail and formerly moa. Moa bones are common in a natural and cultural context in the area.¹² Also naturally occurring are taramea (spear grass), tikumu (mountain daisy), harakeke (flax) and probably tī kōuka (cabbage tree).¹³

Ara Tawhito (Travel Routes)¹⁴

The trails and resource gathering places of Kāi Tahu were widespread throughout Otago. Seasonal travel and places of encampment ensured the depth of association and traditions were continuously renewed and transferred to succeeding generations.

The Macraes Flat area was part of a major trail network running north-south and east-west, linking the Waihemo Valley directly with the lower Taieri wetlands bordering Maukaatua. The area, as discussed, contained natural resources that would have been targeted by Māori occupying more permanent settlements nearby, or on seasonal mahika kai gathering expeditions.

The coastal settlement Okahau at present day Warrington had a population of 3,000, and was a starting point to go up the range to get to the Silverstream or over to the Taieri”.¹⁵

An early undated Topographical Plan of the Dunback District shows a Road from Macraes to Shag Valley¹⁶ which almost certainly follows an old Māori track, which was often the case as stated on some early Otago survey plans. This track heads east from the upper catchment of Tipperary Creek following the present day line of Macraes Road to Waynes in the Waihemo Valley.

¹¹ Allingham (2011).

¹² Thompson (1949)

¹³ Hamel (1987)

¹⁴ Allingham (2011)

¹⁵ Chapman, F (1891)

¹⁶ Survey Office Plan 409

Iwi Archaeological Assessment for the Coronation North Project

An archaeological survey of the Coronation North Area was undertaken by Brian Allingham in June 2016. The area surveyed and potential Māori archaeological site locations are shown in Figure 8.

Natural resources known to be useful to ancient Māori and harvested on a seasonal basis exist within the survey area. These include tikumu (mountain daisy; *Celmisia* spp.) and taramea (spear-grass, “Spaniard”; *Aciphylla* spp.). Tikumu leaves were used for making rainproof clothing (pōkeka-tikumu) and taramea produced a resinous perfume when heated¹⁷.

The survey area and its wider surrounds were part of an important trail linking the Taieri lakes and beyond with the Waihemo- Waikouiti coast. Schist outcrops within the survey area have natural or potential shelter qualities that have a high potential for occupation by ancient Māori passing through, or gathering local resources. The shelters with the most archaeological potential are marked on Figure 8. Archaeological excavation is required to verify occupation.

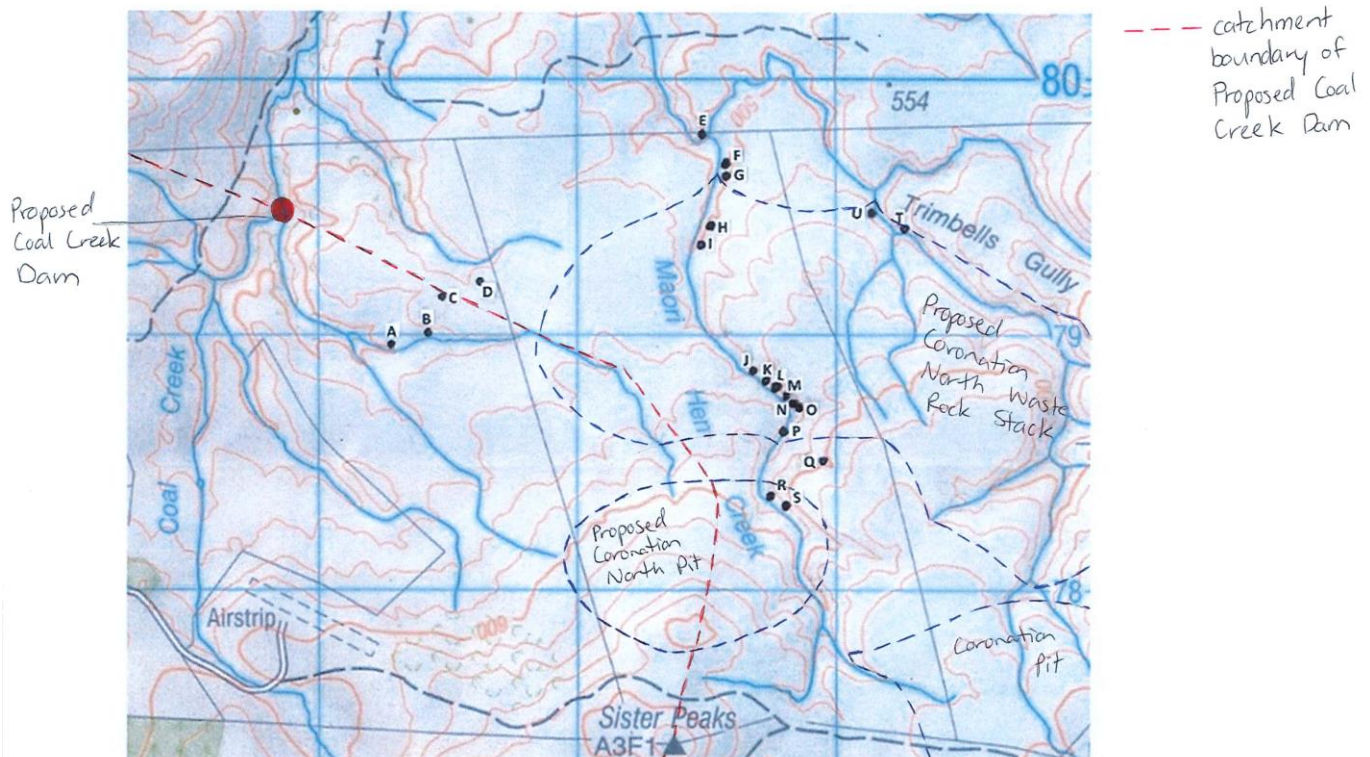
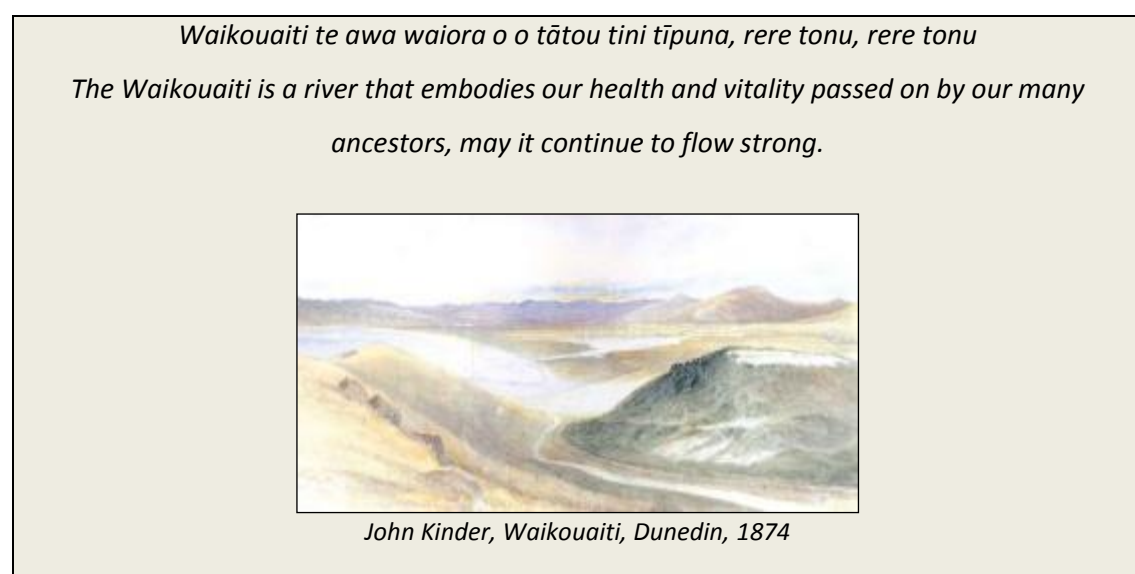


Figure 8: Potential Maori archaeological site locations within the proposed project area

¹⁷ Allingham (2016)

Given the prospect of total obliteration, Allingham (2016) recommends that shelters at locations A and E – T should be test pitted by spade or the like for signs of any archaeological deposit, while the shelters at locations N and O and the small pit at locality L require a grid to be laid out with formal archaeological excavation. It is also recommended that locations B-E; T and U will need archaeological investigation if included in the planned rock stack or affected by any proposed modification¹⁸. Ngā Rūnanga understand that this work is being undertaken.

Cultural Association with the Waikouaiti and Taieri Rivers



All Catchments along the East Coast, regardless of their size, were part of the seasonal trails and behaviours of mahinga kai and resource gathering, and hapū and and whānau bonding. Most of the river mouths have, over the span of hundreds of years, supported human populations.

Water plays a significant role in Kāi Tahu spiritual beliefs and cultural traditions. The loss and degradation of this resource through drainage, pollution and damming is a significant issue for Kāi Tahu ki Otago and is considered to have resulted in material and cultural deprivation.

The Waikouaiti River is used today by Kāi Tahu whānau for gathering mahika kai and for recreation. The river is used recreationally for swimming; stand up paddle boarding and waka ama. Mussels grow on the rock wall in the river and pipi and tuaki are collected in the river channel.

¹⁸ Allingham (2016)

White baiting is common between Orbells Crossing and the river mouth. Kāi Tahu fish the Waikouaiti River for a variety of flatfish and kanakana (lamprey). Occasionally flounder are seen. Big shoals of mullet come into the Waikouaiti River in late October and early November on the high tide. Other species are used as indicators of what the fish are doing. For example, sea lions come up the Waikouaiti River in search of fish and the behaviour of the kingfisher and the blue heron changes when the whitebait are running.

Whānau are involved in many studies monitoring the flows and water quality of the Waikouaiti River. They observe changes in the river, the flow, the debris in the water, the surface water quality, the water clarity and the species present to get a better understanding of what the river is doing over the course of several years.

The Taieri Catchments remain of great significance to Kāi Tahu ki Otago and our long association and interaction within this catchment is widely recorded. Existing in the consciousness of Kāi Tahu ki Otago is a significant cultural landscape dominated physically by a series of block mountain ranges and valleys running parallel to the coast. When Kāi Tahu tīpuna (ancestors) were walking over these mountains they recognised in their shape and appearance a likeness to the combers and rolling waves of the ocean, waves responsible for causing well-known maritime disasters.

Kāi Tahu ki Otago used all areas of the Taieri Catchments as evidenced by the hundreds of mahika kai sites associated with the many waterways, lakes and wetlands in the Upper Taieri, the Strath Taieri and the Lower Taieri Plains. Many of these waterways have been modified, or in the case of Taieri Lake lost, as a result of resource use and development.

Due to the long history of use of the Taieri Catchments as a mahika kai supporting permanent and temporary settlements, there are numerous urupā and wāhi tapu associated with the streams, rivers and wetlands.

7. Statutory Framework

Ngāi Tahu Claims Settlement Act 1998

The Ngāi Tahu Claims Settlement Act included as cultural redress a number of mechanisms to recognise and give practical effect to Ngāi Tahu mana over taoka resources and cultural landscapes. These include statutory acknowledgements, tōpuni, nohoanga and place name changes.

The aim of statutory acknowledgments is to improve the effectiveness of Ngāi Tahu participation under the Resource Management Act in decisions affecting taonga species, customary fish species, and acknowledged cultural landscapes. The statutory acknowledgement for Taonga Species is attached as Appendix 1 to this report. Taonga species that may be affected by the proposed Coronation North Project include taramea (Speargrass, Spaniard, *Aciphylla* spp), pīhoihoi (New Zealand pipit, *Anthus novaeseelandiae*), riroriro (Grey warbler, *Gerygone igata*), pūtakitaki (Paradise shelduck, *Tadorna variegata*) and kōura (*Paranephrops* spp).

Kāi Tahu ki Otago Natural Resource Management Plans

The Kāi Tahu ki Otago Natural Resource Management Plans 1995 and 2005 are the principal resource management planning documents for Kāi Tahu ki Otago. The kaupapa (theme) of the plans is 'ki uta ki tai' (mountains to the sea), which reflects the holistic Kāi Tahu ki Otago philosophy of resource management.

The Natural Resource Management Plans express Kāi Tahu ki Otago values, knowledge and perspectives on natural resource and environmental management issues. The plans are an expression of kaitiakitanga. While the plans are first and foremost planning documents to assist Kāi Tahu ki Otago in carrying out their kaitiaki roles and responsibilities, they are also intended to assist others in understanding tāngata whenua values and policy.

The 2005 plan (NRMP) is divided into catchments, with specific provisions for the whole Otago area and for each catchment. The Project is located within the East Otago and Taieri Catchments.

The objectives and policies of the NRMP for wai māori, wāhi tapu sites, mahika kai and biodiversity and cultural landscapes are relevant to the Coronation North Project. These objectives and policies provide the framework for the cultural values assessment in the next section of this report and are attached as Appendix 2.

Regional Plan: Water for Otago

The Regional Plan: Water For Otago has been written to assist the Otago Regional Council to promote the sustainable management of Otago's water resources.

The Kāi Tahu values associated with the Waikouaiti and Taieri Rivers as summarised in the Regional Plan: Water for Otago are:

Kaitiakitanga - The exercise of guardianship by Kāi Tahu in accordance with tikanga Māori

Mauri - Life Force

Wāhi Taoka - Treasured resources, values, and sites that reinforce the special relationship Kāi Tahu have with Otago's water resources.

Mahika Kai - Places where food or resources are procured, including eels, whitebait, kanakana (lamprey), kokopu (galaxiid species), kōura (fresh water crayfish), fresh water mussels, indigenous waterfowl, watercress and raupō.

Kohanga - Important nursery/spawning areas for native fisheries and/or breeding grounds for birds.

Trails - Sites and water bodies that formed part of traditional routes, including tauraka waka (landing place for mōkihi).

Cultural materials - Water bodies that are sources of traditional weaving materials (such as raupō and paru) and rongoa (medicines).

The following value is also identified for the Taieri River:

Wāhi tapu and/or Waiwhakaheke - Sacred places; sites, areas and values associated with water bodies that hold spiritual values of importance to Kāi Tahu.

8. Cultural Values Assessment

Water Quality and Quantity

Ko te wai te ora ngā mea katoa

Water is the life giver of all things

Water plays a significant role in Kāi Tahu spiritual beliefs and cultural traditions. The condition of water is seen as a reflection of the health of Papatūānuku. The loss and degradation of this resource is a significant issue for Kāi Tahu. High water quality is a prerequisite for healthy and abundant mahika kai, which is the cornerstone of Kāi Tahu culture.

“The protection of mauri has become one of the principal issues for contemporary freshwater management, because Māori are increasingly concerned with the integrity of the waterways on which their survival and their cultural identity depend.”¹⁹

Kāi Tahu place a high value upon the mauri of water bodies. While there are also many intangible qualities associated with the spiritual presence of rivers, elements of physical health which Kāi Tahu as kaitiaki use to assess the mauri of water bodies include:

- Aesthetic qualities e.g. clarity, natural character and indigenous flora and fauna;
- Life-supporting capacity and ecosystem robustness;
- Depth and velocity of flow;
- Continuity of flow from the mountain source of a river to the sea;
- Productive capacity; and
- Fitness for cultural usage.

All water from the Coronation North Pit and Coronation North Waste Rock Stack and any overflow from the Coronation Pit Lake will flow to the Mare Burn catchment, a tributary of the Taieri River. The waste rock stack seepage is likely to elevate sulfate concentrations. Ngā Rūnanga are concerned about the downstream effects that this may have on the water quality of the surrounding catchments, despite proposed mitigation measures.

Deepdell Creek and the Mare Burn are ephemeral waterways. Ngā Rūnanga understands that Coal Creek Dam, if built, would alter low flows so that these waterways are no longer ephemeral. This may affect the ecology within the catchment, as described in the following section.

The cultural values of mahika kai and mauri are negatively affected by the discharge of contaminants to water, and may be negatively affected by alteration of flow regimes. This in turn negatively affects the health of the catchment as a whole.

¹⁹ Tipa G, Tierney L (2003), p.7

Freshwater Ecology

Mahika kai is “part of who we are”

The freshwater resources of the Taieri River and the tributaries of Trimbells Gully, Coal Creek and Māori Hen Creek will be impacted by the effects of the proposal on water quality and quantity. These tributaries are especially important because of the significant habitat that they provide for mahika kai.

Tributaries of the Taieri River contain significant habitat for flathead galaxiid and kōura (freshwater crayfish). Ngā Rūnanga are concerned about the effects of increased flow in the Mare Burn catchment from the potential freshwater storage dam on non-migratory galaxiid species habitat. This is a particular concern because of the threatened status of these species. Ngā Rūnanga are also concerned about the loss of aquatic values that may occur as a result of the removal of wetland, especially the loss of freshwater fish and kōura habitat as these are a mahika kai and Taonga species.

Terrestrial Ecology

Vegetation

The proposed Coronation North Project would remove approximately 315ha of indigenous vegetation. The Taonga species taramea is classified by the Department of Conservation as “at risk” and may be affected by the Project.

Ngā Rūnanga are concerned about the impact of the proposed Coronation North Project on indigenous vegetation and Taonga plant species, in particular the loss of 315ha of indigenous vegetation.

Avifauna

The proposed Coronation North Project may affect 11 bird species that were recorded within the Project Impact Area, five of which are indigenous. Three of these are Taonga species; pīhoihoi (New Zealand pipit, *Anthus novaeseelandiae*), riroriro (Grey warbler, *Gerygone igata*) and pūtakitaki (Paradise shelduck, *Tadorna variegata*). Pīhoihoi is an ‘at risk-declining’ species that is widespread in the Macraes area.

Ngā Rūnanga are concerned with the potential impact of the Coronation North Project on the indigenous avifauna species, in particular the three Taonga species. The effects of the

proposed project on pīhoihoi are especially of concern because they are widespread in the Project Impact Area and the status of pīhoihoi as ‘at risk-declining’.

Herpetofauna

The proposed Coronation North Project may affect three reptile species that were recorded within the Project Impact Area. These species are the McCann’s skink (*O. Maccanni*), the southern grass skink (*Oligosoma polychroma*) and the korero gecko (*Woodworthia*).

Ngā Rūnanga are concerned about the potential impact of the Coronation North Project on the three reptile species recorded in the Project Impact Area such as loss of habitat. Ngā Rūnanga believe that it is preferable and easier to look after species before they are threatened than to try to restore species after they have been negatively affected. It is therefore preferable that effects are avoided where possible. Unavoidable effects should be minimised and mitigated with environmental restoration measures if appropriate.

Archaeological Values

Schist outcrops within the survey area were potentially used by ancient Māori passing through on mahika kai trails as sites of shelter.

Ngā Rūnanga are concerned about the potential impact of the Coronation North Project on the archaeological sites that may exist in the Coronation North Project area, and are aware that there may be previous gold trails present at the project site. Any archaeological sites that do exist within the Coal Creek Dam area would be destroyed, which would have a negative cultural impact on Ngā Rūnanga. Ngā Rūnanga support the work that is being undertaken in order to determine whether archaeological sites are present within the Project area.

Landscape Values

The Coronation North Project will have high landscape and visual effects during operation, especially at Longdale Road. Ngā Rūnanga are concerned about the Coronation North Project becoming visible from the ground, especially as it is currently only easily visible from the air. The importance of landscape values to Kāi Tahu is expressed in the Natural Resource Management Plan 2005. Every part of the landscape was known and named by Kāi Tahu.

9. Recommendations

Mō tātou, ā, mō kā uri, ā muri ake nei

For us and our children after us

As kaitiaki, Ngā Rūnanga have an intergenerational perspective on environmental management. It is of the utmost importance that the natural environment is left in a similar or better condition for the next generation.

Ngā Rūnanga believe it is preferable and easier to look after the natural environment before it is degraded, rather than to restore it after it has been negatively affected by an activity. Therefore Ngā Rūnanga prefer that potential negative effects are avoided where possible and mitigated to a high standard where necessary.

If the consents for this application are to be granted it is recommended that they are subject to conditions that achieve the following:

- Mitigation of the effects on water quality and quantity in the lower catchments
- Sharing of all water quality monitoring results with Ngā Rūnanga
- Protection of in-stream habitat for native fisheries, including non-migratory galaxiid species
- The engagement of Ngā Rūnanga in the development of environmental offsets and restoration of habitat for indigenous biodiversity and Taonga species. It is preferred that detailed plans are developed, with input from Ngā Rūnanga, before the granting of the consents outlining how environmental offsets and restoration are to be achieved. These plans should then form part of the conditions of consent.

Alternatively, Ngā Rūnanga recommends that the conditions of consent require the creation of a reference group that includes representatives from Ngā Rūnanga to work with OGL on developing detailed plans outlining how environmental offsets and restoration are to be achieved.

Ngā Rūnanga supports the proposed trout barriers to protect flathead galaxiid from brown trout and the proposed man-made kōura ponds to maintain and enhance kōura populations.

As many of the potential cultural effects of the Project centre on the proposed Coal Creek Dam, Ngā Rūnanga recommend that OGL informs Ngā Rūnanga as soon as possible once the decision to build it or not is made.

Ngā Rūnanga wish to be kept updated on the currently occurring archaeological investigation into the potential sites located within the proposed Coal Creek Dam, and recommend that the findings of this investigation are shared with Ngā Rūnanga.

Ngā Rūnanga place especially strong emphasis on the need for firm, clear guidelines to achieve a high standard of rehabilitation back to natural landscape and vegetation cover at the cessation of the Project. This will reduce effects on landscape values in the long term.

Ngā Rūnanga supports the inclusion of the following review condition as proposed by OGL:

"The Council may, within 6 months of receipt of the Cultural Impact Assessment; serve notice of its intention to review the conditions of this consent for the purpose of amending or adding conditions to address mitigation of the effect of the Coronation North Project on cultural values and associations".

As several of the mitigation measures for effects of the Project are still being discussed, Ngā Rūnanga recommend that the dialogue between Ngā Rūnanga and OGL is maintained and both parties work collaboratively to develop appropriate mitigation measures that address effects on cultural values.

10. Conclusion

East Otago is an important taoka tuku iho for Ngā Rūnanga. Ngā Rūnanga are responsible as kaitiaki for ensuring that the natural resources are available for Kāi Tahu to use now and in the future. The maintenance and enhancement of the values and resources of the Macraes area are of primary importance for Ngā Rūnanga. Engagement with Kāi Tahu is critical to achieving recognition and protection for cultural values in the development and management of projects such as the Coronation North Project.

Aspects of the Project have not yet been confirmed, such as whether the construction of a dam on Coal Creek will take place. Therefore the details of many of the mitigation measures proposed to address the effects of the Project have not yet been determined and their

development is ongoing. Nga Rūnanga want to work with OGL on the development of detailed plans outlining how environmental offsets and restoration are to be achieved.

Nga Rūnanga believe it is preferable and easier to look after the natural environment before it is degraded, rather than to restore it after it has been negatively affected by an activity.

Therefore Ngā Rūnanga prefers that potential negative effects are avoided where possible and mitigated to a high standard where necessary.

Ngā Rūnanga recommend that the dialogue between Ngā Rūnanga and OGL is maintained to enable both parties to work collaboratively on the development of appropriate mitigation measures that address effects on cultural values.

11. Bibliography

Allingham, B. (2016) *The Coronation North Project 2016- OceanaGold: Archaeological Assessment Report on Remains of Māori Origin*.

Allingham, B.J. (2011) *OceanaGold: Macraes Phase III, Iwi Archaeological Assessment*

Beattie, J.H (1944) *Māori Place-names of Otago*.

Chapman, F (1891) Field notes and others relating to greenstone. M1:414.Chapman Papers, Hocken Library.

Hamel, J (1987) *Archaeological Survey for BHP Minerals*. Unpublished Report.

Kāi Tahu ki Otago (2005) *Natural Resource Management Plan*

Ngāi Tahu 1880. *Papers relating to The Ngāi Tahu Claim*.

OceanaGold (New Zealand) Limited (2016) *Coronation North Project: Assessment of Environmental Effects*

Otago Regional Council (2003) *Regional Plan Water for Otago*

Otago Regional Council (2008) *The Water Resources of the Waikouaiti River*

Potiki, T (2011) *Statement of evidence on behalf of Te Rūnanga o Ōtākou, Application for Resource Consents for Project Next Generation by Port Otago Limited*.

Prebble, M; Mules, D (2004) *Tō hīkoia mai Hikaroroa ki Waikouaiti - Kua Te Rā, Kā Te Ahi (A journey from Hikaroroa to Waikouaiti – The sun has set, the fire is now alight)*. A contribution to the cultural history of the Waikouaiti River and surrounding environs, compiled for Kati Huirapa Runaka ki Puketeraki by Matiu Prebble and David Mules.

Te Rūnanga o Arowhenua, Te Rūnanga o Waihao, Te Rūnanga o Moeraki, Office of Te Rūnanga o Ngāi Tahu, with assistance from G. Tipa, H. Crengle, K. Davis, B. Allingham, and A. Symon (2002). *Cultural Impact Assessment for Project Aqua*.

Tipa, G; Tierney, L (2003) *A Cultural Health Index for Streams and Waterways: Indicators for Recognising and Expressing Māori Values*. Ministry for the Environment, Wellington, New Zealand.

Tipa, G (2011) *Seismic Testing in the Great South Basin: Cultural Impact Assessment*. Report prepared by Tipa and Associates Ltd for OMV / Shell.

Thompson, H.M (1949) *East of the Rock and Pillar: A history of the Strath Taieri and Macraes Districts*. Whitcombe and Tombs.

Trotter, M (1961) 'A Quartzite Source Site at Nenthorn, Central Otago'. New Zealand Archaeological Association Newsletter Vol. 4 - No. 3, 1961.

Appendix 1: Statutory Acknowledgement for Taonga Species

Taonga fish species		
Ingoa Maori	English name	Scientific name
Kāeo	Sea tulip	<i>Pyura pachydermatum</i>
Koeke	Common shrimp	<i>Palaemon affinis</i>
Kōkopu/Hawai	Giant bully	<i>Gobiomorphus gobioides</i>
Kōwaro	Canterbury mudfish	<i>Neochanna burrowsius</i>
Paraki/Ngaiore	Common smelt	<i>Retropinna retropinna</i>
Piripiripōhatu	Torrentfish	<i>Cheimarrichthys fosteri</i>
Taiwharu	Giant kōkopu	<i>Galaxias argenteus</i>

Taonga shellfish species		
Ingoa Maori	English name	Scientific name
Pipi/Kākahi	Pipi	<i>Paphies australe</i>
Tuaki	Cockle	<i>Austrovenus stutchburgi</i>
Tuaki/Hākiari, Kuhakuha/Pūrimu	Surfclam	<i>Dosinia anus</i> , <i>Paphies donacina</i> , <i>Mactra discor</i> , <i>Mactra muchsoni</i> , <i>Spisula aequilateralis</i> , <i>Basina yatei</i> , or <i>Dosinia subrosa</i>
Tuatua	Tuatua	<i>Paphies subtriangulata</i> , <i>Paphies donacina</i>
Waikaka/Pūpū	Mudsnail	<i>Amphibola crenata</i> , <i>Turbo smaragdus</i> , <i>Zedilom</i> spp

Taonga marine mammal species		
Ingoa Maori	English name	Scientific name
Ihupuku	Southern elephant seal	<i>Mirounga leonina</i>
Kekeno	New Zealand fur seals	<i>Arctocephalus forsteri</i>
Paieka	Humpback whales	<i>Megaptera novaeangliae</i>
Parāoa	Sperm whale	<i>Physeter macrocephalus</i>
Rāpoka/Whakahao	New Zealand sea lion/Hooker's sea lion	<i>Phocarctos hookeri</i>
Tohorā	Southern right whale	<i>Balaena australis</i>

Taonga bird species		
Ingoa Maori	English name	Scientific name
Hoiho	Yellow-eyed penguin	<i>Megadyptes antipodes</i>
Kāhu	Australasian harrier	<i>Circus approximans</i>
Kākā	South Island kākā	<i>Nestor meridionalis meridionalis</i>
Kākāpō	Kākāpō	<i>Strigops habroptilus</i>
Kākāriki	New Zealand parakeet	<i>Cyanoramphus</i> spp
Kakaruai	South Island robin	<i>Petroica australis australis</i>
Kakī	Black stilt	<i>Himantopus novaezealandiae</i>
Kāmana	Crested grebe	<i>Podiceps cristatus</i>
Kārearea	New Zealand falcon	<i>Falco novaeseelandiae</i>
Karoro	Black-backed gull	<i>Larus dominicanus</i>
Kea	Kea	<i>Nestor notabilis</i>
Kōau	Black shag, Pied shag, Little shag	<i>Phalacrocorax carbo</i> , <i>Phalacrocorax varius varius</i> , <i>Phalacrocorax melanoleucos brevirostris</i>
Koekoeā	Long-tailed cuckoo	<i>Eudynamis taitensis</i>
Kōparapara or Korimako	Bellbird	<i>Anthornis melanura melanura</i>
Kororā	Blue penguin	<i>Eudyptula minor</i>
Kōtare	Kingfisher	<i>Halcyon sancta</i>
Kōtuku	White heron	<i>Egretta alba</i>
Kōwhiowhio	Blue duck	<i>Hymenolaimus malacorhynchos</i>
Kūaka	Bar-tailed godwit	<i>Limosa lapponica</i>
Kūkupa/Kererū	New Zealand wood pigeon	<i>Hemiphaga novaeseelandiae</i>
Kuruwhengu/Kuruwhengi	New Zealand shoveller	<i>Anas rhynchotis</i>
Mātā	Fernbird	<i>Bowdleria punctata punctata</i> and <i>Bowdleria punctata stewartiana</i> and <i>Bowdleria punctata wilsoni</i> and <i>Bowdleria punctata candata</i>
Matuku moana	Reef heron	<i>Egretta sacra</i>
Miromiro	South Island tomtit	<i>Petroica macrocephala macrocephala</i>
Miromiro	Snares Island tomtit	<i>Petroica macrocephala dannefaerdi</i>
Mohua	Yellowhead	<i>Mohoua ochrocephala</i>
Pākura/Pūkeko	Swamp hen/Pūkeko	<i>Porphyrio porphyrio</i>
Pārera	Grey duck	<i>Anas superciliosa</i>

Ingoa Maori	English name	Scientific name
Pateke	Brown teal	<i>Anas aucklandica</i>
Pīhoihoi	New Zealand pipit	<i>Anthus novaeseelandiae</i>
Pīpīwharau	Shining cuckoo	<i>Chrysococcyx lucidus</i>
Pīwakawaka	South Island fantail	<i>Rhipidura fuliginosa fuliginosa</i>
Poaka	Pied stilt	<i>Himantopus himantopus</i>
Pokotiwha	Snares crested penguin	<i>Eudyptes robustus</i>
Pūtakitaki	Paradise shelduck	<i>Tadorna variegata</i>
Riroriro	Grey warbler	<i>Gerygone igata</i>
Roroa	Great spotted kiwi	<i>Apteryx haastii</i>
Rowi	Ōkārito brown kiwi	<i>Apteryx mantelli</i>
Ruru koukou	Morepork	<i>Ninox novaeseelandiae</i>
Takahē	Takahē	<i>Porphyrio mantelli</i>
Tara	Terns	<i>Sterna spp</i>
Tawaki	Fiordland crested penguin	<i>Eudyptes pachyrhynchus</i>
Tete	Grey teal	<i>Anas gracilis</i>
Tīeke	South Island saddleback	<i>Philesturnus carunculatus carunculatus</i>
Titī	Sooty shearwater/Muttonbird/Hutton's shearwater Common diving petrel South Georgian diving petrel Westland petrel Fairy prion Broad-billed prion White-faced storm petrel Cook's petrel Mottled petrel	<i>Puffinus griseus</i> and <i>Puffinus huttoni</i> and <i>Pelecanoides urinatrix</i> and <i>Pelecanoides georgicus</i> and <i>Procellaria westlandica</i> and <i>Pachyptila turtur</i> and <i>Pachyptila vittata</i> and <i>Pelagodroma marina</i> and <i>Pterodroma cookii</i> and <i>Pterodroma inexpectata</i>
Tititipounamu	South Island rifleman	<i>Acanthisitta chloris chloris</i>
Tokoeka	South Island brown kiwi	<i>Apteryx australis</i>
Toroa	Albatrosses and Mollymawks	<i>Diomedea spp</i>
Toutouwai	Stewart Island robin	<i>Petroica australis rakiura</i>
Tūī	Tūī	<i>Prothemadera novaeseelandiae</i>
Tutukiwi	Snares Island snipe	<i>Coenocorypha aucklandica huegeli</i>
Weka	Western weka	<i>Gallirallus australis australis</i>
Weka	Stewart Island weka	<i>Gallirallus australis scotti</i>
Weka	Buff weka	<i>Gallirallus australis hectori</i>

Taonga plant species		
Ingoa Maori	English name	Scientific name
Akatorotoro	White rata	<i>Metrosideros perforata</i>
Aruhe	Fernroot (bracken)	<i>Pteridium aquilinum</i> var <i>esculentum</i>
Harakeke	Flax	<i>Phormium tenax</i>
Horoeka	Lancewood	<i>Pseudopanax crassifolius</i>
Houhi	Mountain ribbonwood	<i>Hoheria lyalli</i> and <i>H. glabata</i>
Kahikatea	Kahikatea/White pine	<i>Dacrycarpus dacrydioides</i>
Kāmahi	Kāmahi	<i>Weinmannia racemosa</i>
Kānuka	Kānuka	<i>Kunzia ericoides</i>
Kāpuka	Broadleaf	<i>Griselinia littoralis</i>
Karaeopirita	Supplejack	<i>Ripogonum scandens</i>
Karaka	New Zealand laurel/Karaka	<i>Corynocarpus laevigata</i>
Karamū	Coprosma	<i>Coprosma robusta</i> , <i>coprosma lucida</i> , <i>coprosma foetidissima</i>
Kātote	Tree fern	<i>Cyathea smithii</i>
Kiekie	Kiekie	<i>Freycinetia baueriana</i> subsp <i>banksii</i>
Kōhia	NZ Passionfruit	<i>Passiflora tetrandia</i>
Korokio	Korokio Wire-netting bush	<i>Corokia cotoneaster</i>
Koromiko/Kōkōmuka	Koromiko	<i>Hebe salicifolia</i>
Kōtukutuku	Tree fuchsia	<i>Fuchsia excorticata</i>
Kōwahi Kōhai	Kōwhai	<i>Sophora microphylla</i>
Mamaku	Tree fern	<i>Cyathea medullaris</i>
Mānia	Sedge	<i>Carex flagellifera</i>
Mānuka Kahikātoa	Tea-tree	<i>Leptospermum scoparium</i>
Māpou	Red matipo	<i>Myrsine australis</i>
Mataī	Mataī/Black pine	<i>Prumnopitys taxifolia</i>
Miro	Miro/Brown pine	<i>Podocarpus ferrugineus</i>
Ngaio	Ngaio	<i>Myoporum laetum</i>
Nīkau	New Zealand palm	<i>Rhopalostylis sapida</i>
Pānako	(Species of fern)	<i>Asplenium obtusatum</i>
Pānako	(Species of fern)	<i>Botrychium australe</i> and <i>B. bifforme</i>
Pātōtara	Dwarf mingimingi	<i>Leucopogon fraseri</i>
Pīngao	Pīngao	<i>Desmoschoenus spiralis</i>
Pōkākā	Pōkākā	<i>Elaeocarpus hookerianus</i>
Ponga/Poka	Tree fern	<i>Cyathea dealbata</i>
Rātā	Southern rātā	<i>Metrosideros umbellata</i>
Raupō	Bulrush	<i>Typha angustifolia</i>
Rautāwhiri/Kōhūhū	Black matipo/Māpou	<i>Pittosporum tenuifolium</i>
Rimu	Rimu/Red pine	<i>Dacrydium cypressinum</i>
Rimurapa	Bull kelp	<i>Durvillaea antarctica</i>
Taramea	Speargrass, spaniard	<i>Aciphylla</i> spp

Ingoa Maori	English name	Scientific name
Tarata	Lemonwood	<i>Pittosporum eugenioides</i>
Tawai	Beech	<i>Nothofagus</i> spp
Tētēaweka	Muttonbird scrub	<i>Olearia angustifolia</i>
Tī rākau/Tī Kōuka	Cabbage tree	<i>Cordyline australis</i>
Tikumu	Mountain daisy	<i>Celmisia spectabilis</i> and <i>C. semicordata</i>
Tītoki	New Zealand ash	<i>Alectryon excelsus</i>
Toatoa	Mountain Toatoa, Celery pine	<i>Phyllocladus alpinus</i>
Toetoe	Toetoe	<i>Cortaderia richardii</i>
Tōtara	Tōtara	<i>Podocarpus totara</i>
Tutu	Tutu	<i>Coriaria</i> spp
Wharariki	Mountain flax	<i>Phormium cookianum</i>
Whīnau	Hīnau	<i>Elaeocarpus dentatus</i>
Wī	Silver tussock	<i>Poa cita</i>
Wīwī	Rushes	<i>Juncus</i> all indigenous <i>Juncus</i> spp and <i>J. maritimus</i>

Taonga fish species		
Ingoa Maori	English name	Scientific name
Kākahi/Koaru	Freshwater mussels	<i>Unio menziesi</i>
Kanakana/Ute	Southern lamprey	<i>Geotria australis</i>
Karengo	Karengo	<i>Porphyra columbina</i>
Karengo	Sea lettuce	<i>Ulva</i> spp
Rimurapa	Bull kelp	<i>Durvillea</i> spp
Toheroa/Tupehokura	Toheroa	<i>Paphies ventricosum</i>
Waikōura	Freshwater crayfish	<i>Paranephrops</i> spp

Appendix 2: Relevant issues, objectives and policies of the Kāi Tahu ki Otago Natural Resource Management Plan 2005

Appendices

The following Issues/Objectives/Policies of the Kāi Tahu ki Otago Natural Resource Management Plan 2005 are seen as relevant to the above proposal. This relates to the holistic management of natural resources from the perspective of local iwi.

Kāi Tahu ki Otago Natural Resource Management Plan 2005

Otago Region / Te Rohe o Otago

Wai Māori

Wai Māori General Issues

- Current water management does not adequately address Kāi Tahu ki Otago cultural values.
- Deteriorating water quality.
- Damming.

Water Extractions

- Inefficient irrigation methods and reluctance to consider alternatives.
- Volume of some extractions being more than is required.
- Cumulative effects of water extractions.
- Lack of water harvesting.
- Long duration of water take consents.

Wai Māori General Objectives

- The spiritual and cultural significance of water to Kāi Tahu ki Otago is recognised in all water management.
- The waters of the Otago Catchment are healthy and support Kāi Tahu ki Otago customs.
- Contaminants being discharged directly or indirectly to water are reduced.
- Flow regimes and water quality standards are consistent with the cultural values of Kāi Tahu ki Otago and are implemented throughout the Otago Region and lower Waitaki Catchment.

Wai Māori General Policies

- To promote the cultural importance of water to Kāi Tahu ki Otago in all water management within the Otago Region and lower Waitaki Catchment.
- To protect and restore the mauri of all water.

Dams/Divisions

- To require a Cultural Impact Assessment for all proposals to dam
- To identify in conjunction with Local Government Agencies the location of all existing dams, new dams and water storage in the region, together with the level of river flow intercepted and the cumulative effect of interception on Kāi Tahu ki Otago cultural values.

Water Extractions

- To require that resource consent applicants seek only the amount of water actually required for the purpose specified in the application.
- To require that all water takes are metered and reported on, and information be made available upon request to Kāi Tahu ki Otago.
- To oppose the granting of water take consents for 35yrs. Consistent with a precautionary approach, either a review clause or a reduced term may be sought.

Wāhi Tapu

Wāhi Tapu General Issues

- Destruction and modification of wāhi tapu through the direct and indirect effects of development and resource use.
- The resurfacing of kōiwi takata through natural and human-induced processes.

Wāhi Tapu Objectives

- All wāhi tapu are protected from inappropriate activities.
- Kāi Tahu ki Otago have access to wāhi tapu.
- Wahi tapu throughout the Otago region are protected in a culturally appropriate manner.

Wāhi Tapu General Policies

- To require consultation with Kāi Tahu ki Otago for activities that has the potential to affect wāhi tapu.

Mahika kai and Biodiversity

Mahika kai and Biodiversity General Issues

- Point and non-point source discharges impacting on mahika kai.
- Impact of dams and instream works on fish migration
- Loss of indigenous biodiversity in the region
- Loss of species of particular importance
- Loss of native fish species through displacement and predation
- Poorly managed landfills, industrial sites and waste disposal sites have created contaminated soils
- Riverine fish species that normally inhabit shallow backwaters and the smaller braids will seek similar depths and habitats in rivers if the flow regime is altered and may face new competition from species that they might be encountering for the first time
- Kā Papatipu Rūnaka believe that inappropriate use and development will adversely impact on:
 - the diversity & abundance of terrestrial and aquatic species;
 - the ability to access & gather mahika kai resources; and
 - the ability to educate future generations in significant mahika kai practices

Mahika Kai and Biodiversity Objectives

- Habitats and the wider needs of mahika kai, taoka species and other species of importance to Kāi Tahu ki Otago are protected
- Mahika kai resources are healthy and abundant within the Otago Region
- Mahika kai is protected and managed in accordance with Kāi Tahu ki Otago tikaka
- Indigenous plant and animal communities and the ecological processes that ensure their survival are recognised and protected to restore and improve indigenous biodiversity within the Otago Region

Mahika Kai and Biodiversity General Policies

- To require Kāi Tahu ki Otago participation in the management of mahika kai, both introduced and indigenous
- To promote the protection of remaining indigenous fish habitat by:
 - i. Identifying waterways that exclusively support indigenous fish
 - ii. Prohibiting the introduction of exotic species where they currently do not exist
 - iii. Ensuring fish passage (both ingress and egress)
 - iv. Removing exotic species from waterways of particular importance where this is achievable and appropriate according to Kāi Tahu ki Otago
- To promote the protection of traditional breeding stocks
- To require that hazardous operations and the use, transportation and storage of hazardous substances are not to impact mahika kai and other cultural values

East Otago Catchments

Wai Māori

Wai Māori Issues in the East Otago Catchments

- Over-allocation of water in particular in the Waikouaiti, Awamoko, Waihemo and Kakaunui Catchments

Wai Māori Policies in the East Otago Catchments

- To encourage the Otago Regional Council to promote water saving programmes and efficient water use in the Waihemo and Kakaunui Catchments
- To require that any water “savings” are returned to the river systems
- To oppose land developments, in particular subdivisions that impact on river systems, including river mouths, in the East Otago Catchments

Wāhi Tapu

Wāhi Tapu in the East Otago Catchments

There are many wāhi tapu within the East Otago Catchments including:

- Numerous archaeological sites found in close proximity to many of the river mouths of the East Otago Catchments
- A number of urupā in the district known to local hapū and/or whānau. Knowledge of some other burial sites may have been lost to antiquity and may only come to prominence following an erosion event or other land disturbance

Wāhi Tapu Issues in the East Otago Catchments

- The movements north and south, together with seasonal patterns of gathering took people to all parts of the East Otago Coastal Catchments and as a result the risk of accidental discoveries is high

Wāhi Tapu Policies in the East Otago Catchments

- To encourage developers and resource users to contact Kāi Tahu ki Otago in the early stage of their planning to determine the proximity of their development to sites of significance that are recorded in the Resource Inventory
- To encourage developers and resource users to adopt an Accidental Discovery Protocol

Mahika Kai and Biodiversity in the East Otago Catchments

Mahika Kai and Biodiversity Issues in the East Otago Catchments

- Changes in ecosystem dynamics and estuarine hydrology
- Impacts on whitebait spawning sites within the East Otago Catchments from sedimentation and grazing
- Loss of freshwater fish kōhaka areas within the East Otago Catchments
- Loss of wetlands within the East Otago Catchments

Mahika Kai and Biodiversity Policies in the East Otago Catchments

- To promote the retention of indigenous freshwater fisheries
- To encourage the identification and protection of areas that support exclusively indigenous freshwater fisheries

Taieri Catchments

Wai Māori

Wai Māori Issues in the Taieri Catchments

- Many of the waterways in the Taieri Catchments, especially in the Upper Taieri and Strath Taieri, are fully allocated or in some instances over-allocated
- Sluicing in the Upper Taieri and Waipori Catchments led to spoil entering waterways, and ultimately the lakes in the lower Catchment permanently changing the character of the riverbed and low land wetlands

Water Takes

- Water extractions from the tributaries of the Taieri River can result in dewatering and affect flows in the main stem
- Cross mixing of waters

Land Use

- Intensive land use in both the upper and lower Taieri Catchment is affecting water quality

Discharges

- Point and non-point source discharges to the “Main Drain” and Taieri River

Wāi Māori Policies in the Taieri Catchments

- To discourage any further cross mixing of water

Dams

- To require that a Cultural Impact Assessment is undertaken for any new dams or structures in the Taieri Catchments
- To require any new or existing dam consents to provide a regular flushing flow

Flow

- To require structures in the Taieri Catchments do not impede or obstruct flows, or fish migration

Water Allocation

- To oppose the allocation of any further water from the Upper Taieri and Strath Taieri
- To require that the cumulative effects and Ki Uta Ki Tai values are addressed in water allocation in the Taieri Catchment

Wāhi Tapu

Wāhi Tapu Issues in the Taieri Catchments

- High likelihood of accidental discovery of archaeological material

Wāhi Tapu Policies in the East Otago Catchments

- To encourage the early reporting of “finds”
- To require accidental discovery protocols for any earth disturbance activities with the Taieri Catchment

Mahika Kai and Biodiversity in the Taieri Catchments

Mahika Kai and Biodiversity Issues in the Taieri Catchments

- Low flows and/or dewatering of significant reaches of waterways is affecting mahika kai habitat
- Structures in the Taieri Catchments used to extract water are a barrier to fish passage
- Land use change, in particular land use intensification impacts the abundance of, diversity, and access to mahika kai species
- Limited restoration activity within the Taieri Catchments

Mahika Kai and Biodiversity Policies in the East Otago Catchments

- To encourage the development of the Taieri River as a “mountains to the sea” corridor
- To protect native fish migration
- To encourage as a long-term objective the restoration of mahika kai within the Taieri Catchments
- To encourage the re-watering of wetland areas on the Taieri Plains
- To investigate the reintroduction of native bird species within the Taieri Catchments

Cultural Landscapes in the Taieri Catchments

Wāhi Kohātu

There are several rock shelters in the catchment used by takata whenua. Given the bleak weather conditions that apply to this part of the country at times throughout the year, these places provided ready-made shelter from the unexpected or sudden arrival of cold fronts. The rock shelters would also be likely encampments during prolonged activities in the upper Catchments.