

Foreword

Te Tai o Marokura, the Kaikōura marine environment, is an ecological system where the whole is far more than the sum of the parts. Similarly this proposed Strategy is an integrated whole, reflecting the six years of research and discussion by Te Korowai. Each part of the Strategy is important and no part can be properly understood in isolation from the rest. We invite you to approach the Strategy in this same spirit. We have done our very best to work for the greater good of the people of Kaikōura, the well being of its natural environment, and to secure opportunities for future generations.

We are not perfect and neither is our work. We offer this strategy humbly, but with a measure of satisfaction that we have put everything we could into it. We know that there is great wisdom in our community, and amongst people all over the world who have come to love the Kaikōura environment. Please tell us how we can make this strategy better, more effective, long lasting, and capable of your support.

Every submission made to us will be analysed, compared with the ideas of others, and taken into account to help finalise the Strategy. We will report to you with an analysis of submissions, a clear record of the decisions we make on the submissions, and how we have dealt with conflicting views. The final Strategy will be much briefer, without the background material included in this current proposal. It will focus on the actions that need to be taken.

Special legislation may be required to give effect to this Strategy. This was the case with the Fiordland Guardians. The same need for various legal requirements to come into place at the same time is also true in Kaikōura. Any such Bill will be subject to Select Committee hearings and everyone will then get another say.

We thank you for your patience, encourage your submissions, and look forward to the dialogue and discussion over the next three months.

John Nicholls
Chair
Te Korowai o Te Tai o Marokura

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Summary

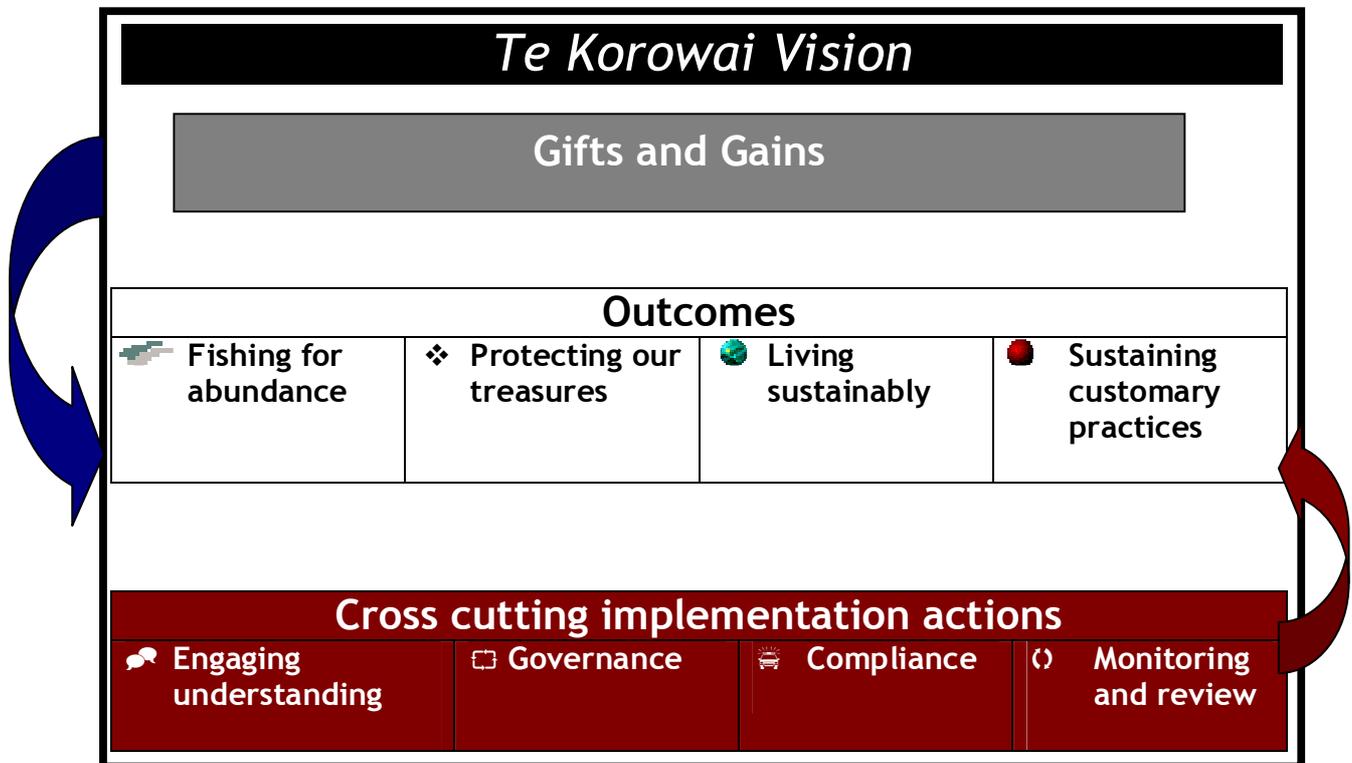
This summary gives an overview of the proposed Te Korowai Strategy. Each proposed action is described in detail in the full Strategy below.

The Te Korowai vision can be summarised as:

- 👁️ By perpetuating the mauri and wairua of Te Tai o Marokura
- 👁️ We as kaitiaki of Tangaroa's taonga
- 👁️ Are leading the community
- 👁️ To achieve a flourishing, rich and healthy environment
- 👁️ Where opportunities abound
- 👁️ To sustain the needs of present and future generations

Te Korowai has worked with local knowledge and the best science available to define how to achieve this vision. We have applied a philosophy of **gifts and gains** where each group has gifted concessions to sustain the integrity of the whole resource for the future. We have defined specific steps required to achieve each of the four key outcomes. We have described four further supporting cross cutting strands of action of implementation that support all the outcomes as shown in Figure 1 below.

Figure 1 Structure of the Strategy



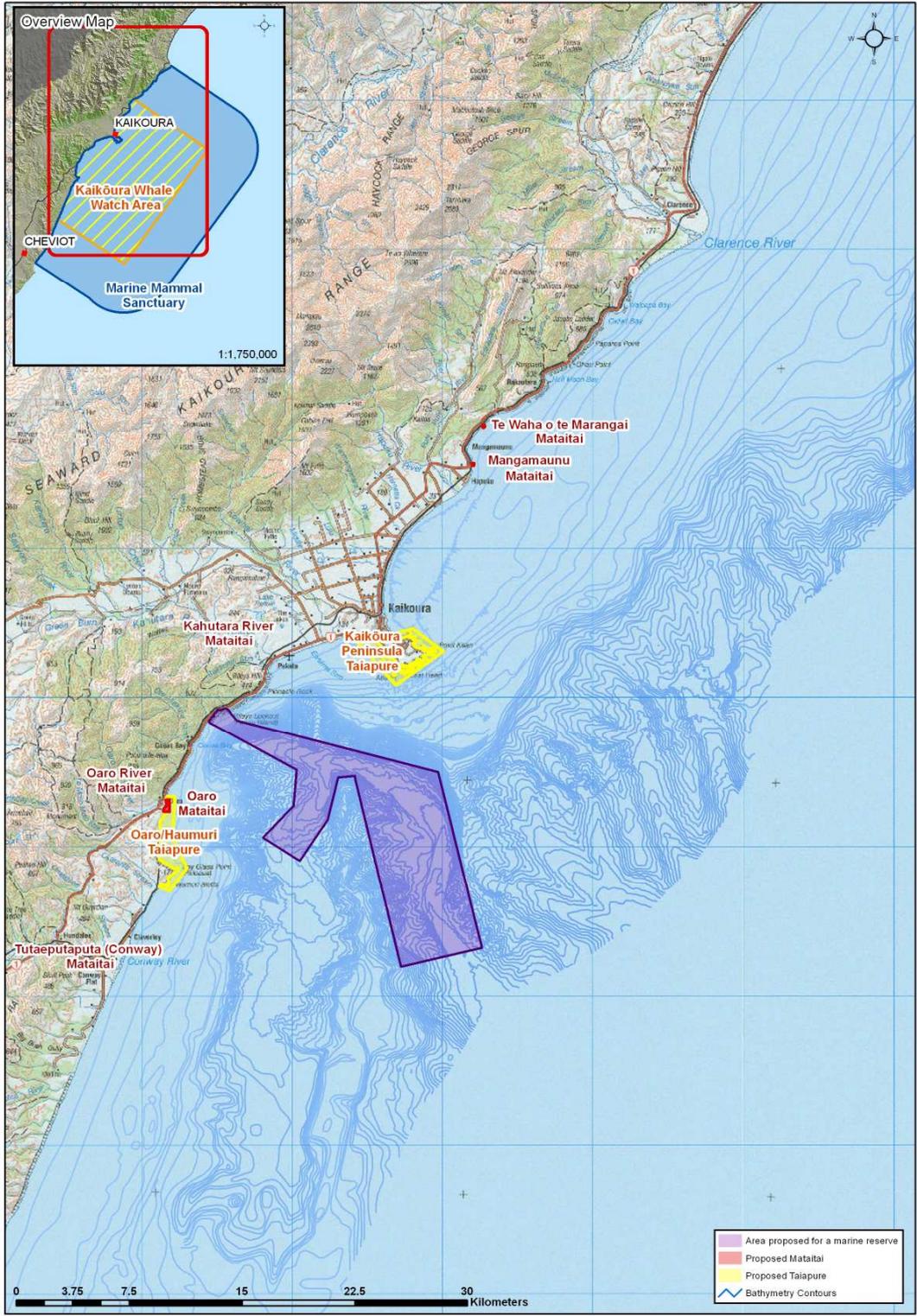


Figure 2 - Overview map of key proposals
(for details and other proposals see full Strategy below)

Fishing for abundance

Objective: **Abundant fish for present and future generations.**

Fishing for abundance will be achieved by:

-  Fish theft minimised through better enforcement and education of fishers.
-  Localised fisheries managed under local recreational fishing rules.
-  Charter fishers code of practice.
-  Voluntary agreements with commercial fishers brought into a comprehensive *Kaikōura Fishing Accord*.
-  Improved awareness and behaviour by fishers through education and awareness-raising.
-  More research and monitoring relevant to Kaikōura fisheries.
-  Increased reseeded of local stocks.

Gifts of fishing for abundance:

-  Recreational fishers gift reduced bag limits.
-  Commercial fishers gift fishing below maximum sustainable yield and within local codes.
-  Customary fishers gift open access to most areas.
-  Environmental interests concede to ongoing fishing in areas of high biodiversity.
-  Ministry of Fisheries gifts localised controls.

Gains of fishing for abundance:

-  More fish for all.
-  Traditional fisheries sustained.
-  More big fish accessible for recreational fishers.
-  Sustainable commercial fishing.
-  Increased opportunities for high-end charter fishing
-  Local control.

Protecting our treasures

Objective: That future generations can continue to experience the wonders that we have today.

Protecting our treasures will be achieved by:

- ❖ World Heritage status for Kaikōura from mountain tops to canyon floor.
- ❖ A marine mammal sanctuary for the whole Kaikōura coast.
- ❖ A local code of practice for avoiding Hector's Dolphin entanglement in set net operations outside the closed area.
- ❖ Marine reserve status over the Kaikōura canyon with a connection to the coast South of Barney's Rock (see Figure 2).
- ❖ A rāhui within the taiāpure around the Kaikōura Peninsula.

Gifts of protecting our treasures:

- ❖ Fishers gift fishing opportunities near Barney's rock.
- ❖ Fishers and mineral interests gift future exploitation of the canyon.
- ❖ Environmental interests gift by minimising reserve size on the coast and by accepting loss of marine reserve opportunities on the Peninsula.
- ❖ Ngātī Kurī gift long term loss of fishing near Barney's Rock.

Gains of protecting our treasures:

- ❖ Long term protection for biodiversity in the canyon.
- ❖ Assured protection for whales and dolphins from mineral exploitation.
- ❖ International recognition of Kaikōura.
- ❖ Protection of biodiversity on the Kaikōura Peninsula while recognising the mana of Ngātī Kurī.

Living sustainably

Objective: **Integrated land and water planning and with resource management processes under local control.**

Living sustainably is achieved by:

- An integrated land and water plan for the Kaikōura coast.
- A public access and highway management plan for the Kaikōura coast.
- Effective marine biosecurity protection for Kaikōura.

Gifts of living sustainably:

- Environment Canterbury and Kaikōura District Council gift autonomy to local leadership in Resource Management Act planning.
- Environment Canterbury, the New Zealand Transport Agency, Department of Conservation and Kaikōura District Council gift autonomy to local leadership in highway and amenity planning.
- MAF Biosecurity and Environment Canterbury gift support to the development of local marine biosecurity capability.
- Te Korowai gifts time and effort to pick up leadership roles.

Gains of living sustainably:

- Integrated planning for management of land and sea.
- Increased confidence in environmental sustainability and landscape integrity.
- Better biosecurity.
- Local control.

Sustaining customary practices

Objective: Ngātī Kurī is recognised as tāngata whenua, and management provides for the traditional management practices and uses of the coast that sustain them as a people.

Sustaining customary practices will be achieved by:

- Mātaitai managed by tāngata whenua at Mangamaunu, Mussel Rock (Te Waha o te Marangai), and Oaro as the traditional food gathering places of tāngata whenua with mātaitai also proposed on the lower reaches of the Oaro, Kahutara and Conway Rivers (see Figure 2) (mātaitai are closed to commercial fishing but open to recreational fishing under mātaitai rules).
- Taiāpure around the Kaikōura Peninsula and Oaro Blocks/Haumuri Bluff are managed by locals with equal representation of tāngata whenua and other local interests (open to all under taiāpure rules).
- An education programme for the general public on customary rights and area management tools such as mātaitai and taiāpure.
- Scientific baseline surveys and ongoing monitoring of newly established mātaitai or taiāpure to assist reserve managers with restoring these fisheries.

Gifts of sustaining customary practices:

- Tāngata whenua seek control only over the most important areas even though their use of the whole coast is well documented.
- Commercial fishers forgo taking from the mātaitai areas.
- All fishers accept tāngata whenua leadership in taiāpure areas.
- Tāngata whenua offer shared management of taiāpure.

Gains of sustaining customary practices:

- Recognition of mana moana by tāngata whenua.
- Key food baskets protected for the future.
- Customary management practices sustained and made available for others.

Engaging understanding

Objective: The whole community consciously cares for Te Tai ō Marokura.

Achieved by:

- Sustaining and disseminating traditional and local knowledge.
- Growing new knowledge on Te Tai ō Marokura through research and monitoring.
- Informing people with a package of information utilising the latest technology available.
- Acting as focal point for marine education.
- Directly engaging with key groups to grow a sense of ownership and kaitiakitanga.

Governance

Objective: Effective oversight of implementation.

Achieved by:

- ☐ Special legislation to embed the role of Te Korowai and introduce the suite of legal instruments identified in the Strategy.
- ☐ Secure ongoing funding for the work of Te Korowai in implementing the Strategy.
- ☐ Ongoing leadership by Te Korowai as kaitiaki of Te Tai ō Marokura.



Kahutara River Mouth - Gina Solomon

Compliance

Objective: Legal rights and obligations and local customs and codes of practice are respected and complied with.

Achieved by:



Guardian endorsed branding of code compliant companies.



Ongoing enforcement presence by Ministry of Fisheries, Department of Conservation, Kaikōura District Council and Environment Canterbury.

Monitoring and review

Objective: The Strategy remains up-to-date and implementation is adapted over time.

The Strategy will be reviewed every 10 years in an open process that involves opportunities for whole community to influence future directions. All protection mechanisms will be reviewed for effectiveness at least every 25 years.

The key indicators for this strategy will be based on assessing:



Progress with implementing each of the actions above.



Changes in numbers of key indicator species inside and outside marine reserves, marine mammal sanctuaries, taiāpure, mātaītai, and rāhui.



Old Wharf - Richard Craig

Part A

Introduction

- 1. About Te Korowai*
- 2. Developing the Strategy*



Richard Craig

1. About Te Korowai

1.1 Who is Te Korowai o Te Tai ō Marokura?

Te Korowai o Te Tai ō Marokura is a group of people standing for local leadership in caring for Tangaroa and in decisions on the use and protection of our marine environment. A *korowai* as used here is a cloak worn by a chiefly person that is laid over something to ensure its care and protection. Here it embraces the coastal marine area of Marokura.

We have come together in response to many issues and uses to develop a management strategy for our coast - the Strategy is a korowai for Te Tai ō Marokura. We are weaving that korowai.

Te Korowai membership includes local groups directly involved with the coastal marine area. Individuals representing these groups can be seen in the centre or ‘yolk’ of the ‘egg’ (Figure 3). Agency and authority members of Te Korowai responsible for managing aspects of the coastal marine area play a support role. They appear in the outer ring or ‘white’ of the egg.



Rock platform - Richard Craig

Te Korowai o
Te Tai ō
Marokura -
Kaikōura
Coastal Marine
Guardians

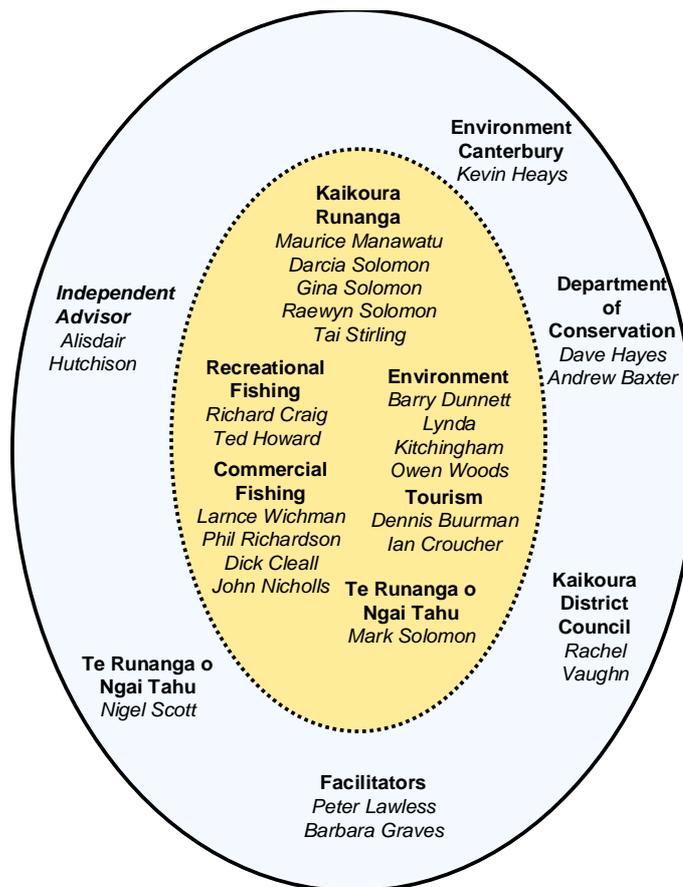


Figure 3 - The Egg Model of Te Korowai (membership as at August 2011)¹
(Model developed by Laurel Teirney)

Note: Te Rūnanga o Ngāi Tahu and the Kaikōura District Council are in both the yolk and the white of the egg. For Te Rūnanga o Ngāi Tahu this reflects its dual role in Kaikōura representing its community and business interests, and as a legal entity representing the tribal interests of Ngāi Tahu as a whole. The Kaikōura District Council is an agency and thus in the white advising on its areas of statutory responsibility, but it also represents the primary community of interest for the area and thus is in the yolk as part of decision-making.

¹ Note that Alisdair Hutchinson previously represented the Ministry for the Environment. Te Korowai invited Alisdair to continue his involvement in a private capacity when the Ministry withdrew its support in 2009 and he remains an independent advisory member. Others who have served as Guardians are Thomas Kahu (Runanga, Whale Watch), Paul McGahan (Kaikōura Marine & Coastal Protection Society), Nicole Sherriff (Kaikōura District Council), Brett Cowan (Runanga), facilitators Laurel Teirney and Glen Lauder, agency representatives Melanie Russell (MFish), Maree Kleinlangvelsloo (MfE), Mike Morrissey (DoC), Tony Brett (MFish), Carl Baker (MFish), Rochelle Selby-Neal (MFish), Jonathon Dick (Mfish), Rose Grindley (MFish), David Gregory (ECan). Rob Gerard (ECan), David Hewson (ECan), and previous support staff include Rachel Pharazyn and Carly Sommerford (Minutes Secretaries).

1.2 *The Te Korowai vision*

Our vision is a future where the moana (sea) of Kaikōura is richer and healthier. We want it to be used sustainably, providing for the needs of present and future generations. In this vision, people will interact with the sea in ways that care for its mauri (life force). People's activity will be managed to respect the natural connections between living and physical elements and sustain the sea's dynamic ecological balance.

The formal vision adopted by Te Korowai is that:

By perpetuating the mauri and wairua of 'Te Tai ō Marokura', we as kaitiaki of Tangaroa's tāonga are leading the community to achieve a flourishing, rich and healthy environment, where opportunities abound to sustain the needs of present and future generations.

Mā te whakapūmau i te mauri me te wairua ō 'Te Tai ō Marokura', ko mātou ngā kaitiaki ō ngā taonga a Tangaroa kei te arataki i te iwi hapori, ki te whakangaruru i te mōmona me te waiora ō te āhuetanga ō te Taiao, mō ngā whakatipuranga ō aianeī mē ake tonu ake.

Māori terms have been included in the English version because their unique meaning cannot be fully translated. These concepts are at the core of the Te Korowai vision, and their full meaning will become apparent as we share the journey ahead. The journey aims to enrich the relationship of people with their marine environment.

Without pretending to delve into the deeper meaning of the Māori terms, the following is a simple explanation of their use here.

Mauri is the life-force of the living system, and *wairua* its spirit. These can be enhanced or diminished by human actions, but continue to exist in their own right whatever we do.

Te Tai ō Marokura is the sea around Kaikōura.

In this context, *kaitiaki* are the guardians who recognise the need to care and take responsibility for the natural environment. The vision recognises that members of the wider Kaikōura community are the kaitiaki of the Kaikōura marine area. Te Korowai acknowledges the importance of local people acting to protect the resources of their natural world.

Tangaroa, the Māori sea god, embodies the sea in its entirety - both its seen and unseen elements. *Taonga* are the treasures of Tangaroa - all those wonderful facets that make the sea a dynamic living system.

1.3 Physical boundaries of the management area

The area covered by this strategy is the coast and sea between Waiau toa (Clarence River), south to Tutaeputaputa (Conway River) (Figure 4), from mean high-water springs out to seaward boundaries defined by the issues being raised (see Figure 2).

This strategy deals with activities and issues on coastal land where there are:

- Direct effects on the coastal marine area (e.g. pollution or fresh water flowing off the land).
- Effects on the amenity value or uses of the coastal marine area
- Effects on coastal and marine wildlife.
- Cross-boundary management issues (such as boat ramps that span a boundary).

Te Korowai o Te Tai ō Marokura agreed that although the legal boundary of Ngāti Kurī is from Parinui o Whiti (White Bluffs) south to the Hurunui River and inland to the Main Divide, a smaller geographical area centred on the Kaikōura community rather than multiple communities would be more practical for resolving issues. A further phase of work could cover the entire marine area in the Ngāti Kurī rohe (area).

Te Tai ō Marokura is within the realm of Tangaroa, god of the sea. Tangaroa was the first husband of Papatuanuku (the Earth Mother), before she wed Ranginui (the Sky Father). The fishing harbours and sheltered coastal areas of the eastern coastline of Te Waipounamu (land of the greenstone waters) were created by Tuterakiwhanoa, the mokopuna (grandchild) of Aoraki, son of Ranginui.

Tuterakiwhanoa was sent by his grandfather to enable human occupation of the lands of Te Waka o Aoraki (the canoe of Aoraki) - the lands of Te Waipounamu, that formed when the waka navigated by Ranginui's sons ran aground on a hidden reef and turned to stone and earth. Tuterakiwhanoa enlisted the help of Marokura with this task. In honour of his work the Kaikōura marine environment was named after Marokura. Te Tai ō Marokura (the coastal marine area of Marokura) is an integral part of Ngāti Kurī history and cultural identity. The immense importance of the area historically, culturally and spiritually is as dynamic as its geography and the life forms that depend on it.

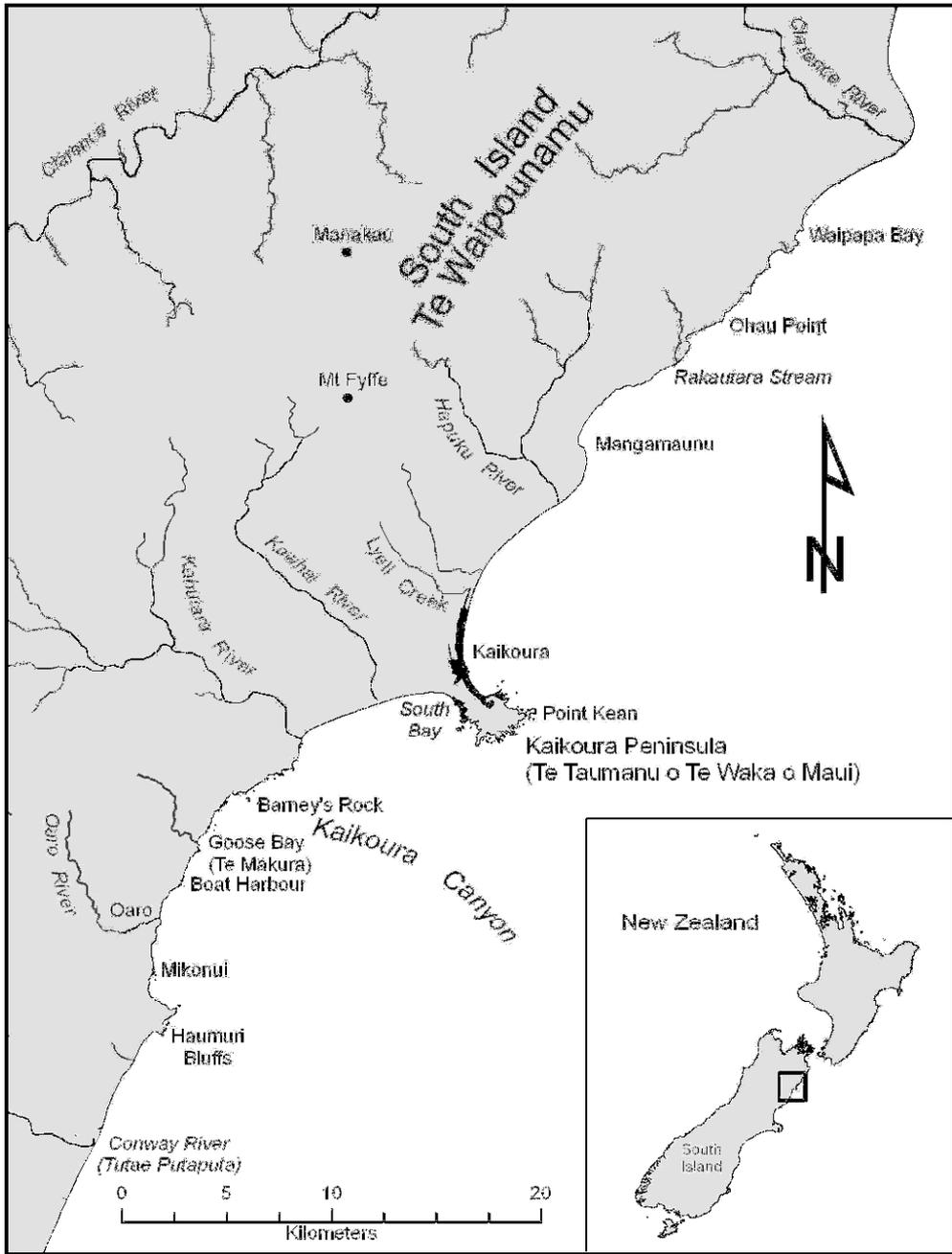


Figure 4: Kaikōura coastal area and catchment

2. *Developing the Strategy*

The process of forming this Strategy began more than a decade ago. After long debate, the Royal Forest and Bird application for a marine reserve on the Peninsula was deemed stale. Local Ngāti Kurī people and Department of Conservation staff experienced pressures for change. Ngāti Kurī, wishing to improve their marine environment, decided to seek support from the Minister of Conservation to collect everyone together and plan formally for the future of the Kaikōura marine environment. Recognising the importance of this marine environment, Te Tai ō Marokura, the Minister agreed and committed Department of Conservation resources to the effort.

Following the lead of the Fiordland Guardians, a local group was formed and Laurel Teirney, who had facilitated the Fiordland process, was engaged to support the work. Issues were identified, information gathered, and shortly after Laurel left the process, Te Korowai completed the first step of publishing a comprehensive *Characterisation Report* in 2008 that pulled together the current information about the Kaikōura coast. This report went to a second edition, and in total 500 copies were printed and distributed to interested parties.

Te Korowai sought comment on the Characterisation Report, ran workshops, attended meetings, developed more detailed solutions and sought feedback on those, and invited people to come to its meetings.

The clear message from those that commented was that they wanted Te Korowai to proceed and make a full strategy and then consult again. This Strategy represents a holistic approach to management of the Kaikōura Coast. It presents the best of the ideas that have been developed; the vital few that will make a real difference.

Te Korowai identified outcomes and actions that would enable it to stand for the future of Te Tai ō Marokura. Te Korowai worked with local knowledge and the best science available to define how to achieve the vision. Members applied a philosophy of gifts and gains where each party gifted concessions to sustain the integrity of the whole resource for the future. They defined the specific steps required to achieve each of the four key outcomes. They then described four further supporting cross cutting strands of action that are needed for all of the outcomes. These are shown in Figure 1 in the Summary and in more detail in Figure 5 below.

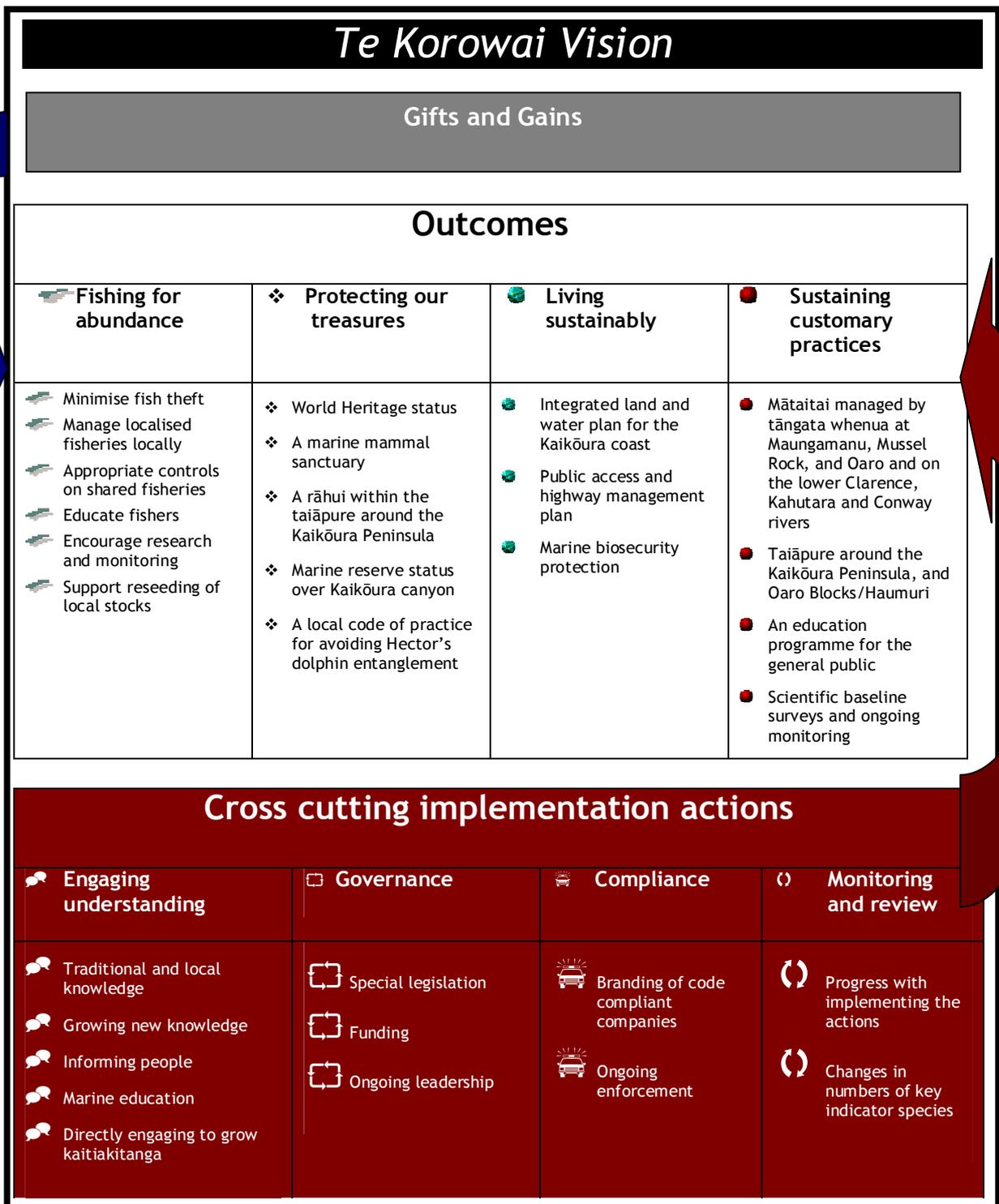


Figure 5 Detailed Structure of the Strategy

Part B

Outcomes

3. Fishing for Abundance

4. Protecting Our Treasures

5. Living Sustainably

6. Sustaining Customary Practices



Albatross - Dennisuurman Photography

3. Fishing for Abundance

3.1 Objective

The Te Korowai objective is abundant fish for present and future generations.

Te Korowai is committed to:

- Te Tai ō Marokura as the food basket of the Kaikōura community.
- Prosperity for local commercial fishers.
- Good fishing for customary and recreational fishers.

This means reducing overall fishing effort from the level accepted in traditional management to a zone of new consensus as described by Dr Ray Hilborn in Figure 6 below. This approach maximizes **benefits** rather than maximizing gross biomass harvest.

As Dr Hilborn says:

We know the primary cause of failure in fisheries management:

- *The race for fish sucks the economic sustainability out of the fishery even with strong sustainable catch regulation.*
- *The race for fish provides incentive to catch as many fish as a fast as possible, build bigger boats, ignore all but the target species to pressure management agencies for the “last sustainable fish”.*²

For Kaikōura, the challenge is to be able to manage fisheries effort to a new local consensus and find ways to control access and effort. Kaikōura fisheries are currently open to any recreational fisher and to any commercial fisher that holds quota for areas that include Kaikōura. Fish populations in Kaikōura will remain healthy and grow in response to improved management. This will mean that rules on commercial, cultural and recreational harvest will have to continue to adapt to retain equity in access across all sectors.



Kaikōura fishing boats - Richard Craig

² <http://www.fish.washington.edu/people/rayh/>

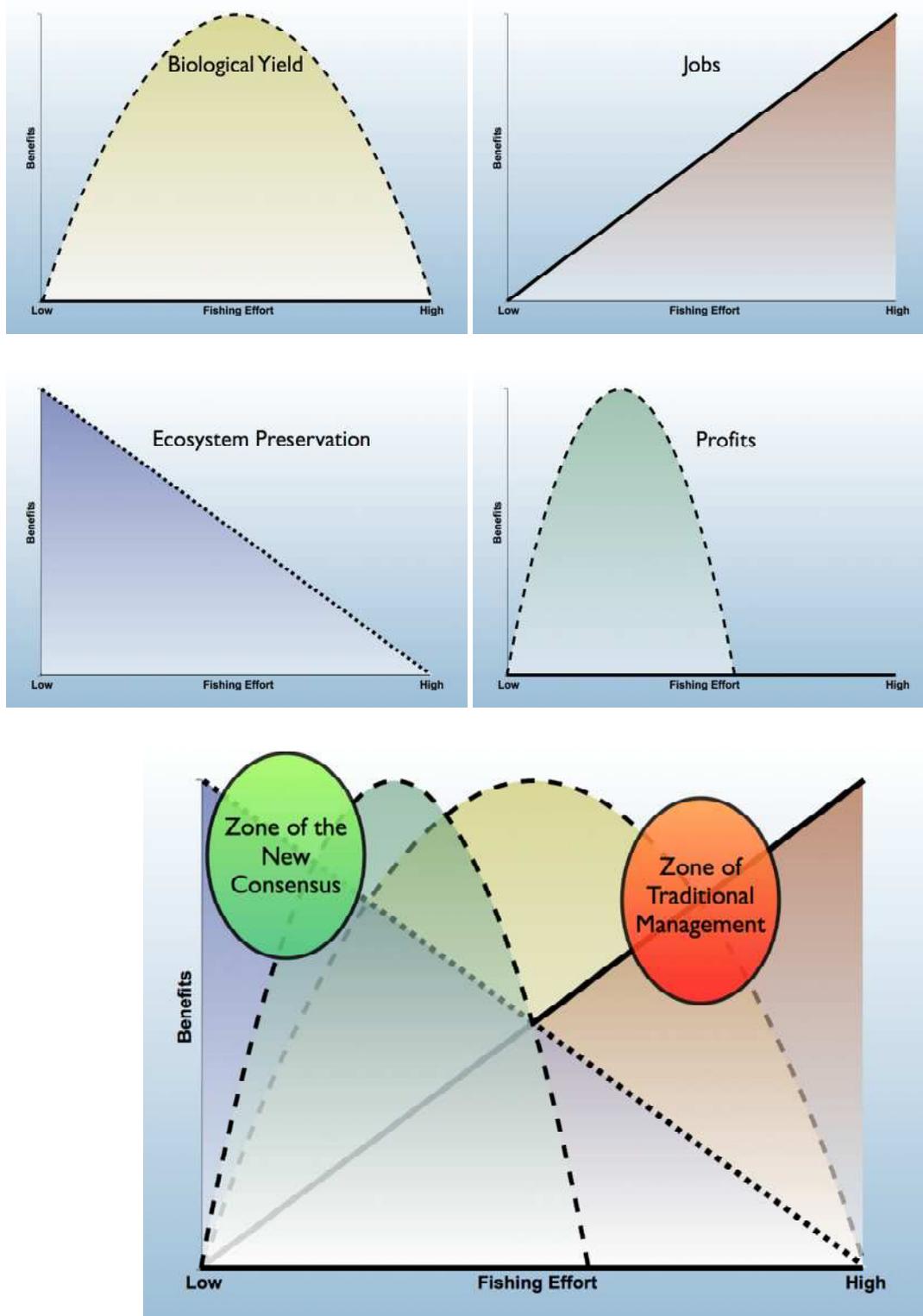


Figure 6 - Dr Hilborn's model of the zone of new consensus

3. 2 Background

A detailed history of Kaikōura fishing is provided in the Characterisation Report. Key points are given here to provide context for the strategic approach.

3.2.1 Early days

From the first occupation of Kaikōura about 700 years ago the whole area offered a bounty of mahinga kai, including:

- A range of kaimoana (seafood).
- Fish from the sea.
- Freshwater resources from lagoons and rivers.
- Marine mammals (whale meat and seal pups).
- Waterfowl.
- Seabird eggs and forest birds.
- A variety of plant resources.

Charles Brunel and Andrew Cross were professional fishermen who took up fishing in South Bay, in 1867. Before that Ngātī Kurī had traded and bartered fish and pākehā whalers had fished, but it was not the principal source of livelihood for either group.

Filleting fish for export began in 1933. This led to more fish being caught, which put pressure on stocks. A prohibition on taking female crayfish with eggs, and size restrictions, were put in place. Guidelines were drawn up for the competency of masters for fishing boats. These became the fisheries regulations in 1938. There were seven boats operating in Kaikōura in 1942, and most fishing was by deep line and set line. In 1945 there was an extension of territorial waters from three nautical miles to 12. There was concern that outsiders were overfishing Kaikōura's inshore waters.

The advent of set netting in the late sixties and early seventies culminated in 35 commercial set-netters operating out of the wider Kaikōura area by the eighties and early nineties. Substantial and unsustainable catches were taken through this 'boom' period. There were also four local trawlers based in Kaikōura.

3.2.2 Ngātī Kurī Fishing

Darcia Solomon, Kaumatua, relates an oral history of Ngātī Kurī experience as follows:

Before the advent of the quota system, Māori fishers mainly fished to feed their families. Johnny (Solomon) and his father Rangī said every area was important to not only feed all their families but they knew that to ensure their fishing area would be abundant and replenishable, other areas needed to be also. We didn't eat pāua, crayfish and other fish all the time, these were only eaten seasonally. Shell fish such as mussels, cockles, pāua, booboos etc were gathered regularly but also, only when in season. Certain protocols were observed when gathering and eating kaimoana for

instance we were always told by our old people to not leave shucked shells on the beach, as this would deter other shellfish from coming to that area.

Crayfish pots were made using supplejack gathered from the bush and they made their own nets. Blue cod often ended up in the craypots and that was our breakfast on that day.

Before colonisation, there were numerous Māori fishermen and each had their own area for fishing, for instance there were fisherman who fished in the South Bay area, fishermen who fished around the wharf, each fisher family fished their own particular areas, up and down the coast of Kaikōura. And while each family had their own fishing areas they also respected each others fishing grounds.

The whānau fished in the rivers for whitebait, flounders and eels. Trout wasn't eaten so much, as they were too dry for our palate. Johnny used to take the young boys out eeling to show them how and where to gaff eels. He also took them bobbing for crayfish at night time at low tide when there was no moon. He used a tilley lamp to light the way and the girls were sometimes invited to carry the bag.

Johnny and Rangī also made their own nets to catch wet fish, but these were never left out for any extended period of time, as they were mindful of the potential issues associated with non targeted species being caught as by-catch. They saw that as a waste and as unsustainable even though in those days, there was plenty of food. Crayfish was always cooked in sea water and kina was regarded as a delicacy. They were known as the 'scavengers' of the sea because they ate everything that other species ate; Johnny would regularly dive for them.

There is no doubt that Māori fished sustainably, given that the environmental productivity of our coastal area was rich with resources, when the colonizers first arrived. But with the onset of a growing industry and fishing becoming more attractive to non-Māori, fishing changed and it eventually became too expensive for Māori fishermen to compete.

There is an expectation that whānau can still go to the beach to gather kai. Mahinga kai played a critical role in upholding and passing on a way of life and knowledge. Mahinga kai is not just about the food gathered, its also about how it was gathered and the passing on of that knowledge to the next generation. It is a cornerstone of Ngāti Kuri. Te Tai o Marokura is statutorily acknowledged as a cultural seascape. This seascape has been acknowledged by the Crown in recognition of a special relationship between tāngata whenua and this coastal space.

It is a hard pill to swallow when we see at times, our land and seascapes being abused and where there is no recognition acknowledged. The crux of the matter from a Ngai Tahu perspective to date, is that Ngai Tahu have settled with the Crown over past injustices and decisions pertaining to significant Ngai Tahu landscapes, and yet current planning provisions continue to support and exacerbate those injustices, which is why the runanga drove and initiated the Te Korowai process.

Kaitiakitanga played a huge role in how fishing grounds were managed. To understand this in today's context it is important to understand how Māori viewed 'ownership'. Ownership was not viewed as an individual right, but as a collective one, and

importantly, it included the responsibilities that go with that. The following quote explains the fundamental principle of kaitiakitanga.

Kaitiakitanga is a philosophy of traditional resource management born of recognition that all elements of nature are related and that what happens ‘upstream’ effects what happens ‘downstream’. Pursuant to this philosophy, traditional rights to access and use key resources were premised and maintained on one’s ability and willingness to uphold associated responsibilities. For example, “rāhui” (temporary restrictions to access and use a given area or resource) may be imposed in order for the mauri of any given area or resource to be restored and thus the interests of future users recognised and provided for. Rights and responsibilities were collectively held and maintained by whānau (extended family), hapū (sub-tribe) and iwi (tribe) depending on the resource in question. Failure to uphold one’s responsibilities could result in the associated rights being removed or restricted.

3.2.3 The Quota Management System

The Quota Management System (QMS) for wet fish and puaa commenced in October 1986. Quota issued to individual fishers was based on their previous three-year catch history. Many fishers chose to either sell their quota through the government buy-back scheme, or sell to other fishers or fishing companies once quota became transferable. The ensuing years saw fishing effort in Kaikōura reduced quite dramatically as fishers sold out and moved on to other activities. Currently there are only five vessels engaged in set netting in Kaikōura and there are no locally based trawlers. Quota levels on some depleted stocks were reduced in order to improve the sustainability of stocks.



Set netting - Dennis Buurman Photography

Recreational and traditional fishers, however, still have significant concerns with the Quota Management System, as it only deals with abundance at the very large scale of Quota Management Areas (in our case the east coast of the South Island), and has no influence over issues of localised depletion. Shifts of commercial harvest up and down the coast, to areas of current higher abundance, is at variance with attempts to increase fish abundance locally.

3.2.4 Recreational Fishing

The Kaikōura coastal marine area supports a valued recreational fishery. A wide variety of fish and shellfish, together with easy access along the coast, account for its popularity. Local and other fishers have become more mobile and better equipped. Kaikōura fishers travel to the Marlborough Sounds and Nelson to scallop and fish, and charter boats as far afield as Fiordland and Stewart Island. Equally, fishers from places such as Christchurch and Marlborough are attracted to Kaikōura in increasing numbers. This makes the Kaikōura fishing scene far more complex than in the past. Notably, significant recreational fishing effort now coincides with the summer tourist season. And as industries such as tourism and dairy flourish, local people have more resources, such as better boats and fish-finding equipment with which to fish. Some recreational fishers have responded to these changes by becoming organised and making commitments to voluntary good practice. The open nature of the fishery, however, makes it hard to get better practices without regulation and enforcement.

3.2.5 Paua

Commercial paua fishing is a distinctive and important part of Kaikōura. Self management of the fishery is conducted through incorporated society Paua mac3. The area involved spans from the Te Korowai boundary at the Clarence River south to the Waitaki River, with a Total Allowable Commercial Catch of 91,615kg of paua. Commercial paua fishers in Area 3 (PAU 3) have set voluntary size limits above the legal minimum, closed areas, shifted fishing areas to avoid local depletion and re-seeded juvenile paua into the sea.

Commercial paua fishers have taken the following steps to achieve the abundance seen today:

- Since 2001 a voluntary agreement divides PAU 3 into four fishing management zones, and a proportion of the total Annual Catch Entitlements is allocated to each zone to avoid overfishing in any one area.
- While there is a minimum legal size of 125mm for paua, Paua mac3 members have agreed to increase this in some parts of their fishery to better reflect biological parameters. The increasing of the minimum harvest size limit allows adults to spawn for another one or two years before they can be harvested.
- Commercial paua fishers have voluntarily almost doubled the number of samples for assessing paua growth. They are also funding research on size at maturity and aging techniques.
- Commercial paua fishers are committed to investing in electronic data capture and monitoring systems to increase knowledge of the resource and its utilisation.
- Commercial harvesting is managed under an agreed code of practice included in an annual operating plan followed by all quota owners and harvest teams.
- Local paua fishers have set up a reseedling hatchery and release spawned lava and 10-12mm juvenile paua annually - approx 50,000 each year since 2002. All

reseeding is paid for by PAU3 quota owners, with resulting adult paua available to recreational and customary harvesters as well as commercial divers.

- Commercial paua fishers support enforcement by reporting suspicious behaviour and providing sentencing notes for judges after a successful prosecution. They have been successful in having an extra fine levied on offenders which has gone back to the reseeding programme to help undo the damage done by poachers.

3.2.6 Rock Lobster

Careful management of the rock lobster fishery at Kaikōura has seen the catch per unit effort increase from 0.3kg in 1993 to 1.9kg per pot in 2010. See Figure 7 below. Rock lobster abundance is now well above biological maximum sustainable yield.

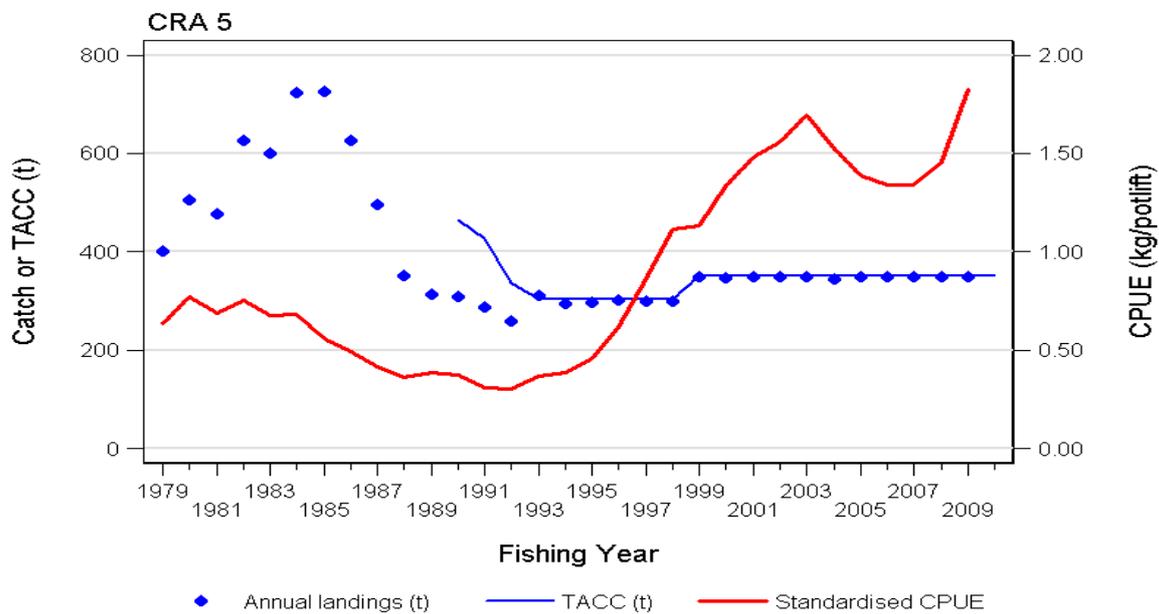


Figure 7 Rock Lobster Catch and Catch per Unit Effort in Area 5

Rock lobster was introduced into the Quota Management System in 1990 with individual fishers receiving quota based on their previous five-year catch history. A reduction in fishing effort (similar to that associated with the wet fish effort), has seen a dramatic reduction in annual pot lifts in the Kaikōura region. For example in 1990 there were in excess of 20 commercial rock lobster fisherman operating from Kaikōura alone (from New and Old Wharf and South Bay), currently there are only five.

Measures introduced over the past 12 years to increase the abundance of rock lobster include:

- When quota entered the lobster fishery in 1990 the Total Allowable Commercial Catch was reduced by 28%. A further reduction occurred later bringing the total reduction to 52%.

- A Total Allowable Commercial Catch increase of 10% was introduced after maximum thresholds were reached in 1999.
- No further Total Allowable Commercial Catch increases have been accepted since 1999. Two Total Allowable Commercial Catch increases have been declined by commercial fishers.
- A voluntary spatial catch effort code of practice has been introduced.
- A voluntary management rule is in place to protect abundance that triggers an allowable catch reduction when the catch per unit effort goes down.
- In 1993 the measurement method was changed from tail length to tail width and commercial rock lobster fishers in Area 5 lobbied Govt to increase the size of the female lobster from a tail width of 58mm up to 60mm.
- Escapement gaps made mandatory in rock lobster pots.
- Commercial rock lobster fishers in Area 5 conduct a large amount of voluntary research outside of the mandatory research requirements.

3.2.7 Sharks

Many shark populations are depleted round New Zealand, and with almost half the shark and ray species present in Kaikōura they deserve some special attention (note the protected and threatened shark species are addressed in Section 4). These were neglected in our Characterisation Report and so more detail is provided here than for other species. This information was kindly provided by Clinton Duffy of the Department of Conservation

The most familiar species are the large migratory pelagic sharks and sharks and rays occurring over the shelf. These groups contain the sport fishes, species of particular customary significance and the target and important commercial by-catch species. Quota Management species are indicated by an ‘*’ in the text box below.

The most important commercial target species are elephant fish, rig and school shark. The most important bycatch species are spotted spiny dogfish, rough and smooth skate, blue shark, mako and porbeagle shark.

Catch per unit effort indices for:

- Rig and elephant fish suggest these species are recovering following overfishing prior to the introduction of the Quota Management System and the Hector’s dolphin set net ban.
- School shark are relatively stable, however low biological productivity and fishery collapses elsewhere mean it is not known if current catch limits are sustainable.
- Shortfin mako and porbeagle have declined.

Chondrichthyan (sharks, rays and ghost sharks) species recorded from Kaikōura (* = QMS species)

Migratory pelagic species (n=7):

Alopias vulpinus - common thresher shark
Carcharodon carcharias - great white shark
Cetorhinus maximus - basking shark
Isurus oxyrinchus - mako, shortfin mako shark*
Lamna nasus - porbeagle*
Prionace glauca - blue shark*
Sphyrna zygaena - smooth hammerhead shark

Shelf species (n=10):

Callorhynchus milii - elephantfish*
Cephaloscyllium isabella - carpet shark
Dasyatis brevicaudata - shorttail stingray
Galeorhinus galeus - school shark, tope, grey boy*
Mustelus lenticulatus - rig, spotted dogfish*
Notorhynchus cepedianus - broadnose sevengill shark ('thrasher shark')
Raja innominata - smooth skate, barndoor skate*
Squalus acanthias - spotted spiny dogfish*
Torpedo fairchildi - electric ray
Zearaja nasuta - rough skate*

Upper slope species (n = 33):

Apristurus spp - deepwater catsharks (species complex, individual species very difficult to identify)
Bathyraja shuntovi - longnose deepsea skate
Brochiraja asperula - smooth deepsea skate
Brochiraja spinifera - prickly deepsea skate
Bythaelurus dawsoni - Dawson's catshark
Centrophorus squamosus - leafscale gulper shark
Centroscymnus coelolepis - Portuguese shark
Centroscymnus owstoni - Owston's dogfish
Centroscymnus plunketi - Plunket's shark
Centroselachus crepidater - longnose velvet shark
Chimaera sp. C - brown chimaera
Chimaera sp. D - purple chimaera
Chlamydoselachus anguineus - frill shark
Cirrhigaleus australis - southern mandarin dogfish
Dalatias licha - seal shark (black shark, kitefin shark)
Deania calcea - shovelnose dogfish
Echinorhinus cookei - prickly shark
Etmopterus granulosus - Baxter's dogfish, southern dogfish
Etmopterus lucifer - blackbelly dogfish, Lucifer dogfish
Harriotta raleighana - longnose spookfish
Heptranchias perlo - sharpnose sevengill shark
Hexanchias griseus - sixgill shark
Hydrolagus novaezealandiae - dark ghost shark
Hydrolagus sp. A - black ghost shark
Hydrolagus sp. B2 - pale ghost shark
Hydrolagus sp. C - pointynose blue ghost shark
Mitsukurina owstoni - goblin shark
Oxynotus bruniensis - prickly dogfish
Rhinochimaera pacifica - Pacific spookfish
Somniosus longus - pygmy sleeper shark
Squalus griffini - northern spiny dogfish
Typhlonarke aysoni - circular blind electric ray
Typhlonarke tarakea - oval blind electric ray

School shark, rig and spotted spiny dogfish were important customary food fishes throughout New Zealand. Shark liver oil was used to mix paints and rub on the skin and of course mako teeth were worn as jewellery. The elaborately carved māripi or shark-tooth knife was made from broadnose sevengill shark teeth.

3.3 *Issues*

The core issue is that inshore fisheries are coming under increasing pressure with a trend of increased harvesting from recreational and charter fishers following a history of commercial depletion before the introduction of the Quota Management System. Increasing fuel prices and other factors such as new technologies could change commercial fishing patterns in ways that increase pressures on inshore fish stocks. Associated with commercial fishing is depletion in some migratory fish stocks that are valued in Kaikōura. These pressures are illustrated in Figure 8 below. They include:

1. Fish theft.
2. Commercial harvest of migratory stocks elsewhere.
3. Annual Catchment Entitlement³ being taken in Kaikōura by fishers based outside the region.
4. Increased charter fishing.
5. Increased recreational fishing effort.
6. Potential habitat degradation from future seaweed harvesting and from bottom trawling on stable bottom types.
7. Fishing pressures on slow breeding shark species.



Tarakihi netting - Dennis Buurman Photography

³ See Glossary for definition of terms.

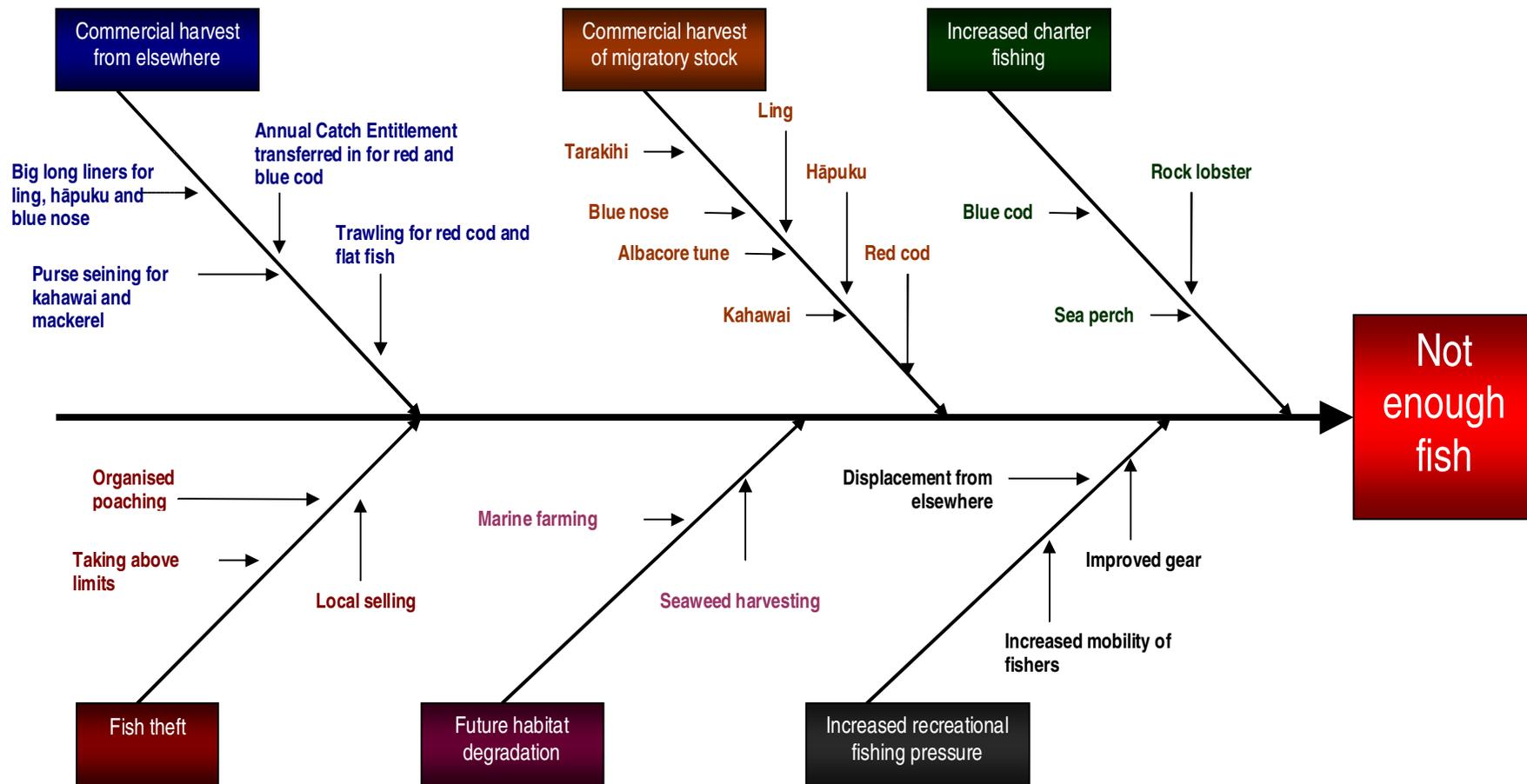


Figure 8 - Pressures reducing fish stocks

In addition, current fishing management approaches take little account of local circumstances and may depress the productivity of fisheries by rules that do not match fish biology. Quota Management Areas span the most of the east coast of the South Island and make no distinction between local areas. Recreational fishing rules often set minimum size limits for species but seldom set maximum size limits to protect the most productive breeding stock.

Kaikōura is part of Fisheries Management Area 3 for finfish that extends from Kaikōura to Flat Point south of Dunedin. Some statistics put things in context:

Fisheries Management Area 3	Kaikōura
Coastline 1490km	Coastline 90km
646,000 people	3,500 people
49,000 tāngata whenua	500 tāngata whenua
129,000 recreational fishers	More than 50,000 recreational fishers

Te Korowai notes that locally based commercial fishers have made many changes as a result of a history of boom and bust. After a history of depletion for many stocks as a result of overfishing and wasteful practices the Government intervened with the Quota Management System. All the information gathered by Te Korowai suggest that this combination of Quota Management System controls, local codes of practice, reseeding and fine scale management have resulted in more sustainable local fisheries.

Issues to be resolved are:

- How local commercial fishing fits with the goal of abundance.
- Growing recreational fishery.
- Sustaining customary practices.
- Dealing with commercial fishing pressure based outside Kaikōura.

For example the total local catch of finfish is around 1,000 tonnes per year while a big trawler can take 100 tonnes in a week (though different species are involved in trawling operations). Local commercial fishing has its greatest effects on the local abundance of crayfish, paua, blue cod and sea perch.

3.3.1 Fish theft

Kaikōura is a target for professional and amateur fish thieves from both Kaikōura and further away. Organised gangs associated with other criminal activities are known to operate in the area, with high abundance of rock lobster and paua, together with multiple points of access, proving a draw card. The present regulations struggle to cope with the few people who sell catch ostensibly taken under recreational fishing rules.

3.3.2 Commercial harvest of migratory fish elsewhere

For many migratory fish species, Kaikōura is part of a common stock with other places, often with the whole of the South Island.

The classic case is kahawai where catch rates have declined in Kaikōura along with other parts of New Zealand (see Figure 9).

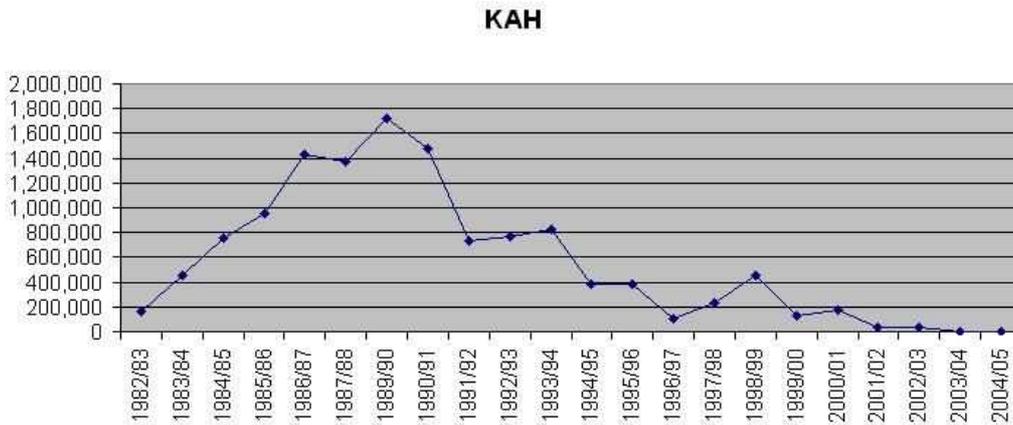


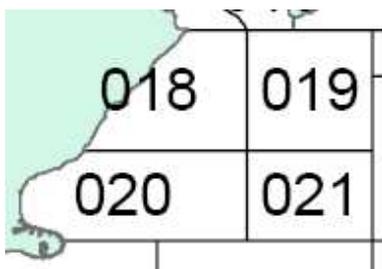
Figure 9 - Commercial catch of kahawai in area 018⁴

Other migratory fish caught in Kaikōura affected by harvest elsewhere include tarakihi, ling, blue nose, hapuka, albacore tuna, red cod and a number of other species.



Kahawai schooling at Kaikōura - Dennis Buurman Photography

⁴ Area 018



3.3.3 Annual Catch Entitlement of Fishers Based Outside Kaikōura

Commercial fishers based outside Kaikōura can fish their Annual Catch Entitlement around Kaikōura as long as they hold quota for the relevant quota area. The amount of each species that can be caught commercially in each area is set by the Minister of Fisheries (the Total Allowable Commercial Catch or TACC). Fishers hold “quota” for each species and this entitles them to a share of the Total Allowable Commercial Catch set by the Minister that year.

Quota areas differ for different species. For paua the PAU3 area extends from the Clarence River in the north to the Waitaki River in the south. For crayfish the CRA5 extends from Farewell Spit to the Waitaki River mouth.



Sealord Trawler off Kaikōura - Dennis Buurman Photography

Fishing effort from elsewhere known to take place in Kaikōura waters includes:

- Purse seine fishing for kahawai and mackerel.
- Trawling for red cod and flat fish.
- Inshore fishing of Annual Catch Entitlement for blue cod and red cod.
- Big long liners fishing for ling, blue nose, and groper.
- Deep water trawlers.

There is risk of a rise in such fishing effort around Kaikōura in the future if local controls make fish more abundant locally.

3.3.4 Increased charter fishing

Charter fishing effort is reported to be increasing around Kaikōura, but the total effect is difficult to ascertain. Unconstrained increases in charter fishing could bring excess pressure to bear on Kaikōura fish stocks.

Fishing pressure has increased in the Kaikoura area, including a marked increase in the number of charter boats. The recreational fishery off Motunau has dramatically declined over the past two years, resulting in many people transferring their fishing effort to Kaikoura. Recreational fishers report that low catch rates and the reduced bag limit for blue cod, combined with increasing numbers of recreational fishers, is resulting in an increasing trend towards fishing for sea perch in the northern part of SPE 3. Recreational fishers at both Kaikoura and Motunau report a reduction in the catch rate and size of sea perch.

Trophia - Anthony Hart and Nathan Walker, New Zealand Fisheries Assessment report 2004/45

The charter fishery in Kaikōura is complex, including both serious full time operators and some very part time elements. At present there is no licensing for charter fishing other than Maritime Safety requirements. With the introduction of specific reporting requirements for fish taken in charter fishing being phased in, a more accurate assessment of the role of charter fishing in Kaikōura fish stock abundance will emerge.

3.3.5 Increased recreational fishing effort

Kaikōura is a very popular recreational fishing area.

Anecdotal observations by local fishers and the 1991-2001 survey⁵ identify four areas of particular importance for recreational fishing (see Figure 10):

- Kaikōura Peninsula, particularly around the south and eastern sides.
- Waipapa to Rakautara in the north.
- Barney's Rock and Goose Bay.
- Oaro to Haumuri Bluffs in the south.

Fishers' observations and formal surveys both suggest that about half of total recreational fishing is concentrated around Kaikōura Peninsula, with the other areas each supporting up to 10% of the total.

The major difference between observations and survey results is that recreational fishers report moving offshore to areas further afield to target species such as hāpuku, which are becoming more significant to the recreational catch.

⁵ The Kaikōura recreational fishery has been studied using regional and national diary schemes (1991, 1996 and 2001), a combined diary/roving and boat-ramp survey (1999), and boat-ramp surveys (1996 and 2000) (Blackwell, 2006). The following account is based on information from the regional and national diary surveys specific to the Kaikōura area (Clarence River to Conway River), conducted between 1991 and 2001, and on qualitative observations made by local recreational fishers, recorded in 2007. Although Blackwell cautions the use of the survey results, broadly speaking there is agreement between the survey and anecdotal observations.



Figure 10 - Recreational fishing areas

Novice fishers and smaller charter operators tend to fish closer to the Peninsula. Smaller perch and the odd blue cod are readily caught around the Peninsula. This is considered good fishing by them when in fact the area is quite depleted. Cod potting commercially in adjacent areas plays a part in reducing the overall abundance. Perch around Kaikōura was heavily targeted commercially prior to its introduction into the Quota Management System. Little is known about the age and robustness of sea perch.

In general, the greater mobility of the New Zealand population, increased availability of offshore capable boats, improved fishing technology and declines in fish stocks elsewhere are creating the potential for excessive recreational fishing pressure on Kaikōura stocks, even if local resident fishing effort remains unchanged. Future recreational fishing effort is, however, hard to predict reliably. Negative changes in the economic health of the country can reduce effort that involves high costs, but can lead to more subsistence fishing locally. Increasing fuel prices may be a significant driver over the next decade. Population growth is linked to increased fishing pressure and, with immigration, a change in the types of fishing.

3.3.6 Seaweed harvesting and bottom trawling

There is potential for habitat degradation from bottom trawling on stable bottom types and, in the future, from seaweed harvesting.

At present bottom trawling occurs on some shelf and shallower areas on rises near Kaikōura. Bottom trawling and dredging can have adverse effects on both living things and natural physical features on the seafloor as explained in the draft marine protected areas standards in the text box below.

Bottom trawling and dredging not appropriate in an MPA

133 The best information at this time, including the Pew analysis, confirms that bottom trawling, bottom pair trawling, dredging and Danish seining have a high physical impact on the seafloor. It would be reasonable to assume that using these methods in virtually any habitat or ecosystem would not provide for the maintenance and recovery of physical features and biogenic structures that support biodiversity, as required by the Protection Standard.

<http://www.biodiversity.govt.nz/pdfs/seas/MPA-Draft-protection-and-classification-system.pdf>

Harvesting of the large brown seaweed *Macrocystis* was brought within the Quota Management System in 2010. Kaikōura is included within the area where harvest is permitted although there are no known intentions for harvest here at present. *Macrocystis* is an important habitat for many coastal species.

3.3.7 Sharks

Sharks and other cartilaginous fishes are inherently vulnerable to overfishing due to their low biological productivity, a product of slow growth, late age at maturity

(particularly females) and low fecundity (small numbers of young, plus long gestation periods and resting years in some species).

Among the inshore species rig are one of the most productive, whereas school sharks have very low productivity (i.e. slow growth, late age at maturity and a three year reproductive cycle). In general deepwater sharks and rays are considered to have very low productivity, although in most cases management is complicated by a lack of species specific information on critical life history parameters, stock structure and fishery relevant behaviour (e.g. movements). Deepwater sharks were quite heavily fished at Kaikōura for their livers and to a lesser extent their meat following the introduction of the QMS in 1986. They were fished for between 330-840 m using deep-set gill nets.

3.4 Solutions

To achieve the Te Korowai goal of abundant fish for present and future generations, the key is to better control the future pattern and quantity of fish harvest, both around Kaikōura and in the wider area of migratory fish stocks.

The priorities are to:

1. Minimise fish theft.
2. Manage localized fisheries locally.
3. To support the development of a code of practice for charter fishers.
4. Advocate for appropriate controls on shared fisheries.
5. Educate fishers to improve awareness and behaviour.
6. Encourage research and monitoring relevant to Kaikōura fisheries.
7. Support reseedling of local fish stocks.

3.4.1 Minimising fish theft

The goal of Te Korowai is to minimise fish theft in Kaikōura.

This goal matters because every stolen fish is one less for legitimate fishers, and each fish thief that gets away with it undermines the fisheries management systems that protect our fisheries.

The goal will be achieved by:

1. Education (see sections 3.4.5 and 7 below).
2. Lobbying Government for better enforcement and supporting the new local fisheries officers.
3. Advocating strong penalties and return of fines to Te Korowai to support local enforcement and restoration.
4. Support for better methods such as accumulation limits and telson clipping for crayfish.
5. Supporting a strong policy of naming convicted poachers in local media.

6. In addition, supporting ideas of Māori poachers having to account to the Rūnanga.

Lobbying Government for better enforcement will include:

- Increased funding and increased penalties for theft and receipt of stolen fish.
- Increased policing and Ministry of Fisheries action on information from Kaikōura.

3.4.2 Managing localised fisheries locally

The goal of Te Korowai is to sustain local abundance of localised fish stocks.

This goal matters because Kaikōura is coming under increasing recreational and charter fishing pressure. Local commercial fishers have already adjusted practices to sustain local commercial stocks, and recreational fishers need to do likewise. In arriving at recommended limits for recreational fishing Te Korowai has adopted the approach of “**only take enough for a feed; you don’t need to take your limit; when you fish in Kaikōura, respect our abundance**”.

Te Korowai has only suggested solutions for species where there are seen to be current or emerging issues. A wide range of other species were considered but were not deemed to merit revised limits locally.

This goal will be achieved by getting Ministry of Fisheries support for setting legally binding rules for recreational fishing under the Fisheries Act for the Te Korowai area as follows:

Seaweed

Karengo (*Porphyra* spp. and *Ulva* spp.) - introduce a daily limit of five litres wet volume per person per day with a requirement for hand picking.

Reason: Karengo is a traditional food of Māori. With the increasing range of ethnicities in New Zealand more people are harvesting seaweeds. Some techniques such as the use of sharp instruments and piano wire do not sustain re-growth as well as traditional indigenous techniques.



Shellfish

Paua (*Haliotis iris*) - reduce daily bag limit to 6 per person (from 10), increase minimum size to 127mm (from 125mm), add a requirement to measure before taking, and support regulation to enforce the Minfish code of practice (see box below).

Reason: Paua has gone from being a traditional Māori fishery to a very important commercial fishery and popular recreational fishery. The recreational fishing pressure is growing. Commercial fishers have adopted voluntary size limits over the minimum to encourage paua breeding and fund re-seeding activity.



Paua - One Code of Practice for All Fishers

Sustainable paua fisheries that avoid wastage

The Code:

- **Only use approved harvest tools.**
- **Measure in the water and return undersized paua where removed from the rock.**

Recent studies have revealed that we have a special problem with paua. While most fishers are responsible, some use fishing techniques which kill undersized paua. A number of practices used in the paua fishery result in high mortalities of undersized paua through ignorance and poor harvesting techniques.

Lethal damage

Many fishers remove undersized paua from the reef surface using sharp instruments. This will usually result in some damage to the foot of the small paua. Paua are unable to clot blood when cut, so even the tiniest nick could result in the paua bleeding to death. Even if the paua survives the cut, the blood will attract predators into the area, and the paua may be killed before it has a chance to clamp down onto the rock surface. Furthermore, damage to the paua may reduce the ability of the paua to clamp onto the rock surface. Research has shown that damaged paua may develop abscesses, which will result in death weeks later.

Drying out

Paua should not be removed from the water and placed on deck to be counted and measured. Paua left in the sun quickly dry out and will soon die in these conditions.

Left to die

Undersized paua are commonly thrown back into the water with no thought of where the paua may end up. Paua thrown over areas of sand have no hope of survival. Even if paua are thrown over reef areas, they often land on their shell and take some time to right themselves and clamp onto the reef surface. While paua are not attached to a reef they are an easy meal for predators in their area.

Why worry?

Undersized paua should be thought of as next year's harvest. Death of any damaged paua that you return will not only lead to fewer paua in the following year, but also in years to come. This is because young stocks are the breeding stocks of the future.

Adapted from Minfish guidelines for gathering paua <http://www.fish.govt.nz/en-nz/Recreational/Most+Popular+Species/Paua/default.htm>

Pupu (cats eye *Turbo smaragdus*) - reduce daily bag limit to 30 per person (currently 50) and introduce a vehicle limit of 250.

Reason: Pupu are a traditional Māori delicacy but are now being targeted by new ethnic groups. Thirty per person is reported by tāngata whenua to comprise a good feed.



Cockles - reduce daily bag limit to 50 per person (from 150) and add a vehicle limit of 250.

Reason: Cockles are rare around Kaikōura and are a traditional Māori seafood item. Current limits are set on the basis of a “kerosene tin full” and have little to do with sustainable harvesting.



All other shellfish combined total 30 per person per day (currently 50).

Reason: Most small shellfish have no specific limits. New ethnic groups entering the recreational fishery are extending the range of intertidal species being targeted. These can be important ecosystem components and a precautionary approach is warranted.



Other invertebrates

Kina (*Austrovenus stutchburyi*) - reduce daily bag limit to 20 per person (from 50).

Reason: Twenty kina is plenty for a feed.



Crayfish (Rock lobster *Jasus edwardsii*) - keep daily bag limit at 6 per person per day and introduce an accumulation limit 18 (three day take), a total yearly bag limit of 150 per person per year⁶ and introduction of a telson clipping requirement for all recreationally harvested crayfish.

Reason: Careful management of the rock lobster fishery at Kaikōura has seen the catch per unit effort increase from 0.3 in 1993 to 1.9kg per pot in 2009. The main threat is fish theft. An accumulation limit of three day’s take and telson clipping were identified by enforcement officers as a key tool to increasing their effectiveness. The yearly limit is designed to make it easier to convict “professional amateurs”.



⁶ This provision is designed specifically to aid enforcement of those fishing under the guise of recreational limits and then selling their catch illegally. Enforcement would involve regular surveillance of suspect fishers to document their landings. It would not be used routinely for legitimate recreational fishers who do not sell their catch.

Finfish

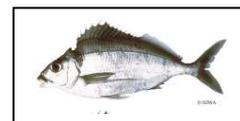
- Blue Cod (*Parapercis colias*) - reduce the daily bag limit to six per person (from 10) and increase minimum size to 33cm (from 30cm). Require use of circle 6/0 or larger hooks for blue cod and develop a blue cod code of practice. Note that this is associated with a voluntary commercial exclusion zone discussed in section 3.4.4.

Reason: The inshore (less than 80m depth) blue cod population at Kaikōura is depleted as shown by size and sex ratios. The deeper water fishery (which is also the main commercial fishery) does not show the same depletion. Blue cod are susceptible to localised depletion and recruitment over fishing. A reduced bag limit and increased size limit will aid recovery of the inshore fishery.



Tarakihi (*Nemadactylus macropterus*) - reduce daily bag limit to 10 per person from 15, keep 25cm size limit.

Reason: This species has been reduced by commercial fishing and needs a chance to recover. There is a lack of larger fish.



Perch (*Helicolenus percooides*) introduce daily bag limit to 20 per person (currently no limit).

Reason: Sea perch are the most commonly taken recreational finfish at Kaikōura. Currently there are no limits and wasteful practices have been observed. Fillets are small and a limit of 20 per day is compatible with fishing for a feed.



Introduce daily combined bag limit of five per person for all of:

- Kingfish (*Seriola lalandi*) (currently 3).
- Bass (*Polyprion maeone*) and hapuka (*Polyprion oxygeneios*) (currently combined limit of 5 with kingfish).
- Blue nose (*Hyperoglyphe antarctica*) (currently 30).
- Ling (*Genypterus blacodes*) (currently 30).

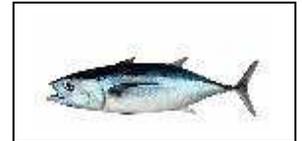
With a daily limit of three for any one of these species where current limits are higher for bass, blue nose hapuka and ling.

Reason: These are large fish with varying bag limits of up to 30 per day per person. Any one fish is a feed and combined limit of five is very generous even though the reduction is significant.



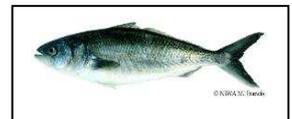
Albacore tuna (*Thunnus alalunga*) - set a daily limit of five per person (currently no limit).

Reason: Albacore tuna are outside the Quota Management System and not subject to recreational fishing limits. With this fish five per day is a very generous local limit and a contribution to sustainable fishing in the South Pacific.



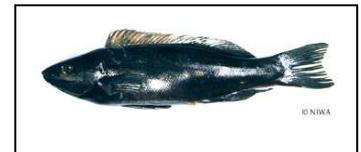
Kahawai (*Arripis trutta*, *A. xylabion*) - reduce daily bag limit to 10 per person (currently 15) with requirement for fish that will not be utilised to be released immediately.

Reason: Nationally depleted by commercial fishing and can be fished wastefully when schooling in accessible areas. Ten fish is a generous feed even when smoking fish.



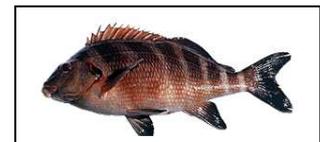
Butterfish (*Odax pullus* or *Odax cyanoallix*) reduce daily bag limit to 10 per person (currently 15).

Reason: Nationally depleted by commercial fishing and can be fished wastefully when schooling in accessible areas. Ten fish is a generous feed even when smoking fish.



Red moki (*Cheilodactylus spectabilis*) - institute a no-take policy (currently 15).

Reason: Locally depleted reef fish needing opportunity to recover.



Sharks

Institute limits of one game shark per person per day (seven gilled shark, mako shark, blue shark, bronze shark, hammerhead shark, porbeagle shark or thresher shark) (current limit of one of each of these per person per day) with a requirement to release sharks that will not be utilised unharmed and two school shark per person per day (currently five).

Reason: Nationally populations of larger sharks are depleted and Kaikōura has an unusual diversity of species making it a good place to commence recovery.



In addition, the rules for recreational fishing in Kaikōura would require:

- Education on reducing wastage.
- Landing in a measurable state.
- Prevention of high grade sorting (i.e. throwing the little ones back to die).
- Supporting and facilitating recreational fishers to record their catches and report to Te Korowai to support analysis for future planning (refer to section 7.4.2 on monitoring).
- Ongoing accumulative limits for each person over time (i.e. how many fish in total they can have in their possession).

3.4.3 Charter fishing

The goal of Te Korowai is to ensure charter fisheries contribute optimally to Kaikōura while not adversely affect the abundance and productivity of fish locally.

This goal recognises the important role of charter fishing in local tourism and the capacity of charter fishing to amplify the recreational take to a level where the abundance of local stocks are compromised. Te Korowai wants to encourage charter fishing that provides high quality experiences for high value visitors and discourage charter fishing as a vehicle for plunder.

To better manage local charter fisheries activities, Te Korowai will:

- Encourage local charter fishers to write their own code of practice (for eventual inclusion in the Kaikōura Fishing Accord, see 3.4.4 below).
- Lobby for clarity on legality of practice related to commercial premises/holiday cottages.
- Lobby for local code or regulations requiring numbering of crayfish pots and for charter clients to be “actively involved” in setting and retrieving and ban all uses of holding pots.
- Introduce a Te Korowai best practice certificate for approved charter operators and display and publicise the approved list.

3.4.4 Controls on shared fisheries

The goal of Te Korowai is to ensure that commercial fishing effort does not adversely affect the abundance and productivity of fish locally.

This goal matters because:

- Large commercial vessels can have a big effect on a local area in a short time.
- Migratory fish depleted elsewhere will impact the abundance of these species in Kaikōura.
- Current fisheries rules do not match the goal of Te Korowai of abundance through highly productive stocks.
- To be effective, local codes of practice need to be respected by all those involved.

The goal will be achieved by:

1. Voluntary agreements with large commercial enterprises that fish around Kaikōura.
2. Bringing all Kaikōura focused agreements and local codes of practice, whether recreational, charter or commercial, into a consolidated ***Kaikōura Fishing Accord***, and seek to have all those operating in the area doing so to a common code.
3. Having Kaikōura recognised as a special area for statistical reporting, and, if necessary, seeking legal controls on commercial fishing practices if voluntary agreements prove ineffective.
4. Seeking a blue cod commercial fishing exclusion area(s) inshore under a code of practice with the specific areas to be established through dialogue with researchers and commercial fishers engaged with blue cod in Kaikōura.
5. Advocating for appropriate catch limits on migratory species.

Voluntary agreements would extend the current purse seine agreement to include other operators and other forms of fishing. This would be the preferred approach with regulations only being sought if voluntary agreement were insufficient. Agreements would include information sharing arrangements.

Te Korowai would seek recognition for Kaikōura as a special area with its own statistical reporting (area 0181.) Te Korowai would also seek to have an accepted voice in all fishery related processes that might affect the area (see section 8 on proposed governance).

Matters to be investigated for inclusion in agreements or regulations include:

- Bottom trawl bans on sensitive areas.
- Limiting catch of small fish from 'net block' on trawler.
- Constraining wasteful fishing.
- Use of square mesh trawls.
- Low horse-power, low-speed trawling.
- Reducing juvenile fish take inshore.
- Limiting tow time for trawlers and setting inshore trawl zone limit.



Trawler off Kaikōura - Dennis Buurman Photography

3.4.5 Education and awareness

The goal of Te Korowai is that people understand what is required to sustain local fisheries abundance.

This goal matters because understanding will yield not only compliance with the rules, but appropriate behaviour in a wide range of situations and support for the systems needed for a sustainable future.

The goal will be achieved by:

- Promoting marine conservation and sustainability education for children in schools, both local Kaikōura schools and in the wider curriculum.
- Supporting national advertising campaigns for responsible fishing practices.
- Taking advantage of local opportunities to promote messages.
- Directly educating fishers with consistent messages - “only take enough for a feed; you don’t need to take your limit; when you fish in Kaikōura, respect our abundance”.
- Training new fishers to fish responsibly.

For the overall awareness programme see section 7.



Rachel Vaughn addressing visiting resource management professionals
- Dennis Buurman Photography

3.4.6 Fisheries research and monitoring

The goal of Te Korowai is to maximise the information available on Kaikōura fishing, fish stocks and habitat.

This goal matters because giving effect to local control of fisheries depends on fine scale information on fishing activity, local fish stocks and the things that might degrade the habitat.

This goal will be achieved by:

- Encouraging research, particularly by University of Canterbury.
- Advocating for fine-scale monitoring by the Ministry of Fisheries.

- Creating reporting and data archiving systems for information gathered by local iwi, recreational fishers, commercial fishers and educational institutions.
- Seeking funding for local monitoring programmes.

3.4.7 Supporting re-seeding of local fish stocks

The goal of Te Korowai is that fisheries recruitment limitations should be alleviated by re-seeding where this can restore local fisheries.

This goal matters because the high fishery productivity available in Kaikōura can be constrained by lack of juvenile organisms in the area. Experience with paua has shown that this constraint can be alleviated through re-seeding for some species.

The goal will be achieved by:

- Supporting the paua re-seeding programme.
- Investigating extension to other species.

3.5 Summary of gifts and gains in fishing for abundance

Gifts:

- Recreational fishers gift reduced bag limits.
- Commercial fishers gift fishing below Maximum Sustainable Yield and within local codes.
- Customary fishers gift open access to most areas.
- Environmental interests concede to ongoing fishing in areas of high biodiversity.
- Ministry of Fisheries gifts localised controls.

Gains:

- More fish for all.
- Traditional fisheries sustained.
- More big fish accessible for recreational fishers.
- Sustainable commercial fishing.
- Increased opportunities for high-end charter fishing
- Local control.



Commercial and recreational fishing at Kaikōura - Dennis Buurman Photography

4. *Protecting Our Treasures*

4.1 *Objective*

The objective of Te Korowai is that future generations can continue to experience the wonders that we have today.

Te Korowai is committed to:

- ❖ The international standing of Kaikōura.
- ❖ Protecting its unique features.
- ❖ Having representative areas in their natural state.

Whales, mountains and the Kaikōura canyon, together with the diversity of life and landscapes, inspire wonder. They together define the uniqueness of Kaikōura that draws people from around the world. The Te Korowai approach is to seek legal protection and recognition for:

- Areas of highest biodiversity.
- The habitat of iconic species.
- Some typical areas to remain in their natural state as an example of the natural functioning of the Kaikōura marine environment.



Kaikōura Sunrise - Richard Craig

4.2 Background

The marine treasures of Kaikōura are its landforms, its wildlife, and amazing areas of biological richness. These come together in the depths of the Canyon and along the rugged shoreline.

The Kaikōura Canyon together with the landforms of the Kaikōura mountains form a natural feature of international significance. Currently this area as a whole has no formal recognition or special protection.

The Canyon itself is part of a landscape made up of a unique combination of land and sea, with the Kaikōura ranges rising steeply inland and the deep waters of the Canyon dropping sharply seaward. Together with the nutrient rich water upwelling from the depths close inshore, this adds a richness of wildlife and biota rare in the world. In the Kaikōura Canyon is the most biologically rich ocean habitat known in the world at depths of below 500 metres (100 times richer than the next documented area at this depth outside areas with the life-support system of hydrothermal vents).⁷

The Canyon holds a special significance to the people of Ngāti Kurī. They say that *“The ocean is known as Te Tai o Marokura or the sea of Marokura. Marokura was the atua (god) who with his magical patu (war club), carved the underwater trenches and canyons, which is why we have our whales here, off our shoreline. The underwater trenches also connect up back to where we first came from. It was Paikea the whale rider, who come on the back of the whale from Hawaiki along the whale route. He arrived here along the east coast of the North Island. He had two sons. One of those sons was Tahu Potiki the ancestor of Ngai Tahu. Tahu’s people travelled down the east coast of the North Island and settled in Kaikōura where we are still today. The Hikurangi trench is what connects us to where we came from some 700 years ago.”*



Kaikōura Canyon - Whale Watch Kaikōura Ltd

⁷ De Leo, F. C., Smith, C. R., Rowden, A. A., Bowden, D. A. & Clark, M. R. *Proc. R. Soc. B* doi:10.1098/rspb.2010.0462 (2010).

Submarine canyons: hotspots of benthic biomass and productivity in the deep sea

Fabio C. De Leo^{1,*}, Craig R. Smith¹, Ashley A. Rowden², David A. Bowden² and Malcolm R. Clark²

Abstract

Submarine canyons are dramatic and widespread topographic features crossing continental and island margins in all oceans.

Canyons can be sites of enhanced organic-matter flux and deposition through entrainment of coastal detrital export, dense shelf-water cascade, channelling of resuspended particulate material and focusing of sediment deposition.

Despite their unusual ecological characteristics and global distribution along oceanic continental margins, only scattered information is available about the influence of submarine canyons on deep-sea ecosystem structure and productivity. Here, we show that deep-sea canyons such as the Kaikoura Canyon on the eastern New Zealand margin (42°01' S, 173°03' E) can sustain enormous biomasses of infaunal megabenthic invertebrates over large areas.

Our reported biomass values are 100-fold higher than those previously reported for deep-sea (non-chemosynthetic) habitats below 500 m in the ocean. We also present evidence from deep-sea-towed camera images that areas in the canyon that have the extraordinary benthic biomass also harbour high abundances of macrourid (rattail) fishes likely to be feeding on the macro- and megabenthos. Bottom-trawl catch data also indicate that the Kaikoura Canyon has dramatically higher abundances of benthic-feeding fishes than adjacent slopes. Our results demonstrate that the Kaikoura Canyon is one of the most productive habitats described so far in the deep sea. A new global inventory suggests there are at least 660 submarine canyons worldwide, approximately 100 of which could be biomass hotspots similar to the Kaikoura Canyon.

The importance of such deep-sea canyons as potential hotspots of production and commercial fisheries yields merits substantial further study.

<http://rspb.royalsocietypublishing.org/content/277/1695/2783.abstract>

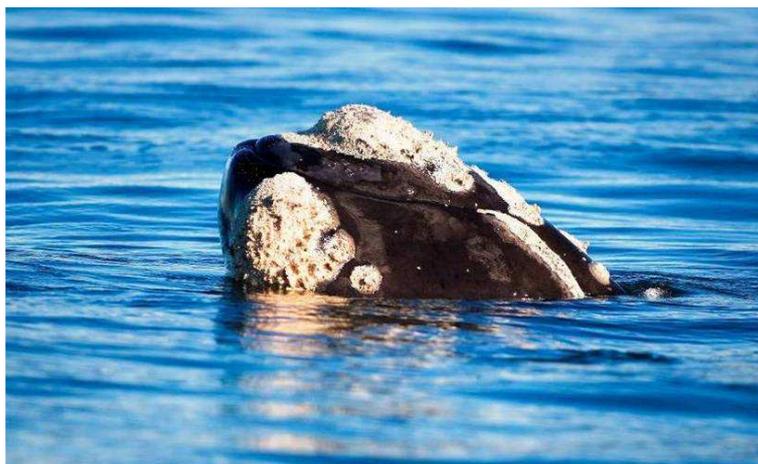
The coastal landscape of Kaikōura is both spectacular and accessible, being traversed by State Highway 1. The intertidal shore and its wave formed backdrop of cliffs is the core of this visual feast. The character of the area is a unique blend of dramatic eroded rocks, high energy waves and richness of plants and animals.



Looking toward the old wharf - Richard Craig

The marine communities of plants and animals are special both for their diversity and for the special and valued species that occur here:

- **Baleen whales** including:
 - Humpback whales which pass northwards along the Kaikōura coast in winter, on their annual migration from their summer sub-Antarctic feeding grounds to their breeding grounds in the tropics.
 - Southern right whales.
 - Minke whales.
 - Fin whales.
 - Sei whales.
 - The very occasional blue whale.



Southern Right Whale - Dennis Buurman Photography

- Several species of **toothed whales** including:
 - New Zealand's only resident sperm whales. These are present off the Kaikōura coast all year, although their distribution and numbers vary seasonally.
 - Pods of orca or killer whales which regularly visit the coast as part of their long-distance foraging migrations around New Zealand.
 - Pilot whales.



Sperm Whale - Dennis Buurman Photography

- A variety of **dolphins** including:
 - Dusky dolphins - there are an estimated 2,000 dolphins along the Kaikōura coast at any one time.



Dusky Dolphins - Dennis Buurman Photography

- Hector's dolphins - a New Zealand endemic species found around much of the South Island, including the Kaikōura coast.



Hector's Dolphins - Dennis Buurman Photography

- Common dolphins.
- Southern right whale dolphins.
- Haul-outs and breeding colonies of New Zealand fur seals.



New Zealand Fur Seals - Richard Craig

- A great diversity of **seabirds** including the Hutton's shearwater uniquely breeding and having its world stronghold in Kaikōura.



Hutton's Shearwater Flock - Dennis Burman Photography

- Almost half the **sharks, rays and ghost species** found around New Zealand are recorded from Kaikōura. This high diversity is undoubtedly due to the habitat complexity of the region, particularly the variety of deepwater habitats found within the Territorial Sea. By far the greatest diversity (66% of species) occurs at outer shelf and upper slope depths (i.e. below 100 m depth).
 - Endemic species include all of the skates and electric rays, carpet shark, rig, dark ghost shark and northern spiny dogfish.
 - Absolutely protected species include great white shark and basking shark.
 - The frequency of reports from Kaikōura and the results of satellite tagging of white sharks at the Chatham Islands and Stewart Island suggest great whites do not aggregate in the region but probably migrate through it. This behaviour could change as the numbers of fur seals breeding along the Kaikōura coast increases, although there appears to be no evidence of this occurring as yet despite the number of seal colonies located in the area. Cage diving to observe great white sharks is a developing industry in New Zealand.
 - Basking sharks have also been assessed as being in gradual decline however their status may be more serious than this. Newspaper reports from the mid 1960s indicate schools containing up to several hundred basking sharks (6-9 m total length) were seen each spring off the Kaikōura Peninsula however anecdotal reports suggest none have been seen in the area for at least 15 years.
- Some of the most diversely populated **intertidal shores** in New Zealand:
 - The studies of the Kaikōura Peninsula highlight the area's high physical and biological diversity. Kaikōura Peninsula has the greatest range of intertidal habitat types of the shores studied in the area. Overall, subtidal seaweed forests at Kaikōura Peninsula are notable for their diversity and abundance of species, mostly mixed stands of large brown algae and carpets of red algae.

- Haumuri Bluffs, platforms, and the large boulder beach west of Spy Glass Point are the most biologically rich in the area.
- Limestone platforms and the boulder beach at Oaro have a rich invertebrate fauna and the greatest diversity of red algae.
- Rocky headlands, outcrops and boulder shores from Waipapa to Hāpuku, and again between the Kahutara and Oaro rivers, have diverse plants and animals, including a wide range of invertebrates, especially on the boulder shores.



Shore platform Kaikōura Peninsula - Richard Craig

4.3 *Issues*

Put simply Kaikōura is one of those special places in the world that deserve protection and international recognition for:

1. Its sheer beauty, the way those snow capped mountains stand so close to the restless sea separated by a thin band of green cultivated land.
2. The wonder of this deep sea canyon so close to the coastline.
3. The outstanding abundance and diversity of marine life flourishing in the nutrient rich upwelling of deep oceanic water, diversity of habitat from deep ocean to intertidal shores and warm and cold current convergence contributing to this abundance.
4. The great diversity of marine habitats in a small geographic area.
5. The whales and dolphins, in great numbers and diversity, with great whales such as sperm whales seen here so reliably by visitors.
6. The second highest number of seabird species ever counted around New Zealand, a country more deservedly known for its seabird diversity than for its famous land birds.
7. As the site that characterises New Zealand in its current mountain building phase so well that our time (24 million years of it) is known as the Kaikōura Orogeny.

The World Heritage Advisory Committee commented that there were *major integrity and management issues that would need to be addressed before a potential World Heritage site could be defined and added to New Zealand's tentative list.*

At present the Committee noted that Kaikōura has:

1. No formal marine protected areas.
2. Lack of protected lowland of high natural character linking the protected mountains to the sea.
3. Lack of integrated planning for the area.

But what is it that really needs protecting?

- The productive capacity of the marine environment to support the abundance of wildlife, fish and marine mammals.
- Some parts of the marine environment that people leave intact so we can know how they might more naturally be and so that we can enjoy them.
- Sites of scientific importance, areas of high biological diversity, nursery and breeding areas and reference sites.
- The habitat of the species that we most value just for being there - the whales and birds.
- The beauty of the coast and its protection from inappropriate and ugly development.
- The quality of the environment - the clarity of the water and the air and places of natural quiet.

The landforms as a whole do not need protecting as such. We are not about to tear down the mountains or fill in the Canyon. But we can destroy the life they hold and it is within our power to mar their beauty forever.

Specific issues for treasured species and communities are listed below:

Sperm whales

The Director-General of the Department of Conservation concluded that for sperm whales no additional commercial whale watching should be allowed along the Kaikōura coast, and declared a 10-year moratorium on new permits. The moratorium on new whale-watch permits at Kaikōura is due to expire in May 2012.

Whales generally

The potential risks for whales include:

- Food shortages.
- Getting accustomed to boats.
- Entanglement in craypot ropes.
- Seismic testing and oil drilling.
- Ship strike.
- Lack of compliance with regulations.

Craypot entanglement is a current issue for whales while the others are potential issues. Ongoing monitoring and scientific investigations are required to identify whether these risks become issues and to identify new issues as they arise.

Craypot entanglement can be dealt with by voluntary codes of practice, fisheries regulations or provisions of a marine mammal sanctuary.



Results of ship strike overseas - Reuters

Dolphins generally

The potential risks for dolphins include:

- Set netting.
- Boat strikes.
- Jet skis.
- Human interaction.
- Lack of compliance.

Set netting is an issue for Hector's dolphins. Since the set net ban line was introduced two dolphin deaths in nets have been recorded.



Commercial marine mammal tourism - Dennis Buurman Photography

Seals

Seals are a contentious issue in Kaikōura. Most tourists love the seals. Many fishers dislike seals, and think they take too many fish. Some advocate seal culls. The Department of Conservation is clear that the fully protected status on New Zealand fur seals precludes this option. Communities around the world have learned to live

with large mammals in their environment. Kaikōura is going to have to do the same and Te Korowai is well placed to facilitate and lead this process.

Potential risks for seals include:

- State Highway 1.
- Railway line.
- People shooting them.

The Department of Conservation is enforcing the law and dealing with harassment and killing of seals. Seals, however, continue to die on the road and on the railway line. Integrated planning to separate the seals and the traffic will become more important as seal numbers continue to increase. There are also risks for people who try to get too close to the seals and this is particularly the case at Ohau Point.

Seabirds

Potential risks for seabirds include:

- Pollution / plastic waste.
- By catch of fishery (nets).
- Limited food supply.
- Conduct of boats including boat strike on seabirds.
- Affects on coastal nesting sites by people, vehicles and land based predators.
- Shore lighting.

At present there are legal rules that govern pollution and discharge of waste from vessels.

Behaviour of some boats around rafts of seabirds is reported to create issues in Kaikōura.



Albatross, Gibson's - Dennis Burman Photography

Sharks

The ecosystem role of most sharks is very poorly understood but given their abundance and diversity in deep water they could be expected to play a significant role in structuring upper slope assemblages. Several outer shelf and upper slope species are fed upon by sperm whales.

Overfishing is the major threat to sharks in New Zealand, and elsewhere. In southern and eastern Australia large deepwater marine reserves have been established to protect endangered deepwater dog fishes and monitoring of these reserves suggests they have been successful in protecting at least some of the adult population.

Seaweed

Seaweed is an important part of the nearshore coastal ecosystem. Potential risks for seaweed include:

- Bladder kelp quota system.
- Harvesting of other seaweeds.
- Pollution, particularly increased sediment input to the sea.

Harvesting could be managed by local codes of practice or by controls under the Fisheries Act. Pollution is a matter for plans formed under the Resource Management Act (see section 5).

Intertidal species

Kaikōura has one of the most accessible rocky shorelines in New Zealand. Between the Clarence and the Conway Rivers, State Highway 1 only leaves the coast for short stretches and even south of Oaro, local roads and tracks give access for motorised transport in most places. Resulting potential risks for the coast include:

- Harvesting/fishing.
- Pollution.
- Habitat destruction.

Anecdotal reports indicate that wholesale stripping of intertidal species occurs and trampling and pollution (rubbish and human excrement) are evident at many high use sites. Education and legal controls may be possible methods under fisheries regulations or the Reserves Act.

Threats common to all species

Future potential threats to all species include:

- Beach and seabed mining.
- Aquaculture development.
- Pollution/plastics.
- Acidification of water - CO₂ build up.
- Biosecurity threats.
- Run-off from land.

- More coastal development.
- State Highway 1 - pollution.
- Lack of awareness.



Beach pollution - Dennis Buurman Photography

4.4 Solutions

The diversity of values, and the diversity of threats, means that an integrated package of measures is required. This package of measures is intended to create both protection and international recognition. Mechanisms under the Fisheries Act are detailed in section 3 on Fishing for Abundance and those under the Resource Management Act in section 5 on Living Sustainably. This section details mechanisms for species and special area protection.

The package is to seek:

- World Heritage Status for Kaikōura.
- A marine mammal sanctuary for the core habitat of whales and dolphins.
- A marine reserve over the Kaikōura Canyon.
- One or more rāhui areas on the Kaikōura Peninsula.

These are discussed in more detail below.

4.4.1 International recognition

The goal of Te Korowai is to have Kaikōura recognised around the world for its natural heritage.

Recognition and protection of what makes Kaikōura unique can be enhanced in many ways. The core solution selected is World Heritage status for Kaikōura from mountain tops to canyon floor as shown in Figure 11. This is a long term measure and would need to be preceded by appropriate legal protection under New Zealand's own laws.

The boundaries shown in Figure 11 are intended as a starting place for discussion rather than a firm proposal at this stage.

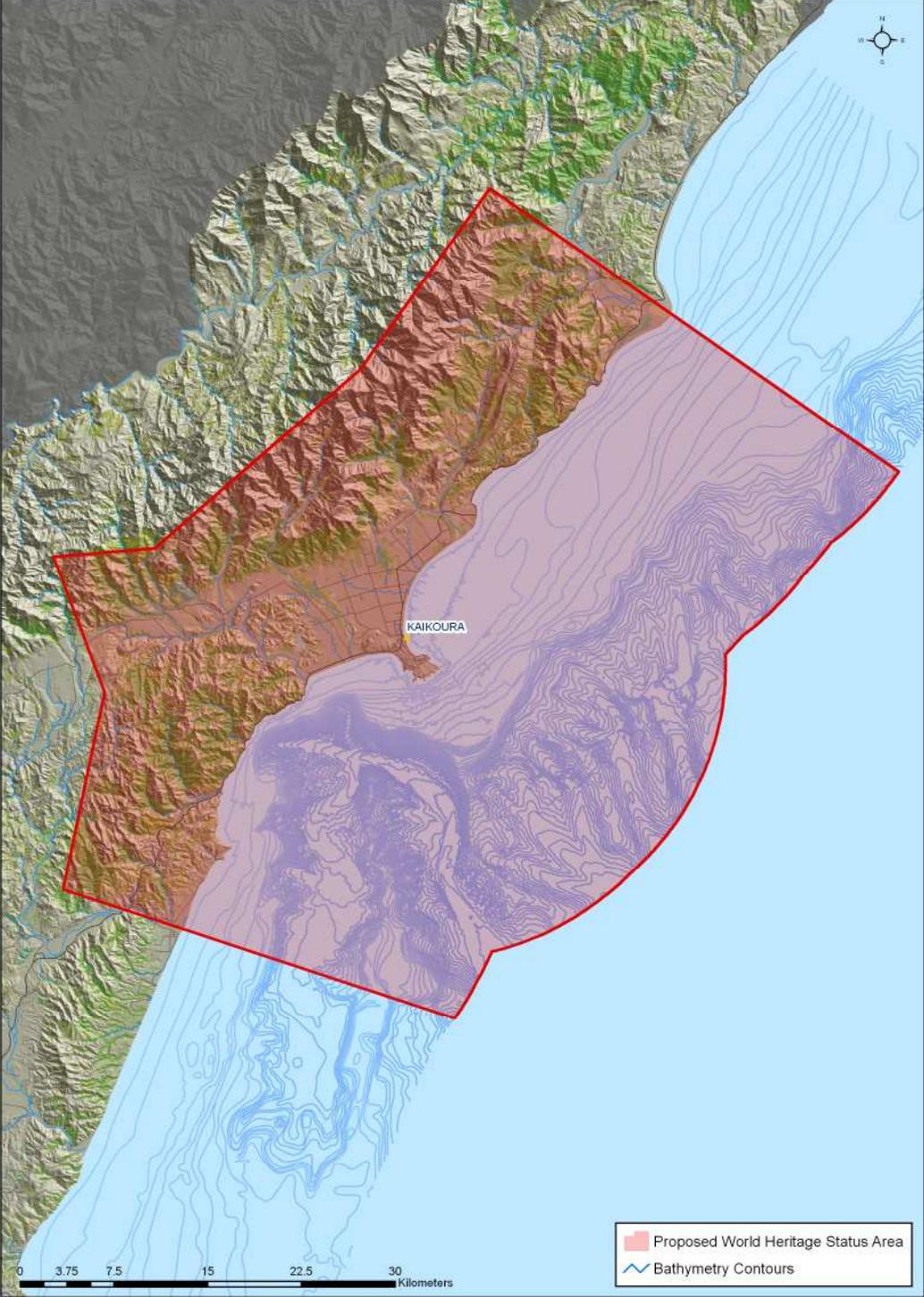


Figure 11 - Area proposed for World Heritage Status

Protection can be achieved by legal means and by other processes such as education and understanding. Foremost in international recognition is the status conferred under widely recognised conventions such as World Heritage status. Other ways are to improve the information available to the world or to gain recognition under other awards and conventions.

In New Zealand legal protection is available for the things that make Kaikōura unique under the:

- Resource Management Act (land and sea).
- Marine Reserves Act (sea).
- Marine Mammals Protection (sea and species).
- Wildlife Act (land, sea and species).
- Fisheries Act (sea and species).
- Reserves Act (land and intertidal).
- National Parks Act (land and intertidal).

World Heritage is the designation for places on earth that are of outstanding universal value to humanity and as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy. Places as diverse and unique as the Pyramids of Egypt, the Great Barrier Reef in Australia, Galapagos Islands in Ecuador, the Taj Mahal in India, the Grand Canyon in the USA, or the Acropolis in Greece are examples of the 890 natural and cultural places inscribed on the World Heritage List to date. Without prejudice to property rights provided by national legislation, countries recognise that the protection of the World Heritage is the duty of the international community as a whole.

The UNESCO World Heritage Convention is a treaty that has become, over the past 30 years, the foremost international legal tool in support of the conservation of the world's cultural and natural heritage. Today, 186 countries have ratified the Convention, making it an almost universally accepted set of principles and framework of action.

4.4.2 Protecting the habitat of whales and dolphins

The goal of Te Korowai is to protect the habitat of whales and dolphins from future disturbance.

The key solution proposed by Te Korowai is a marine mammal sanctuary under the Marine Mammals Protection Act 1978 over the area that was excluded from seismic survey in recent petroleum exploration as shown in Figure 12. This figure also shows in yellow hatching the area used for commercial whale watching.

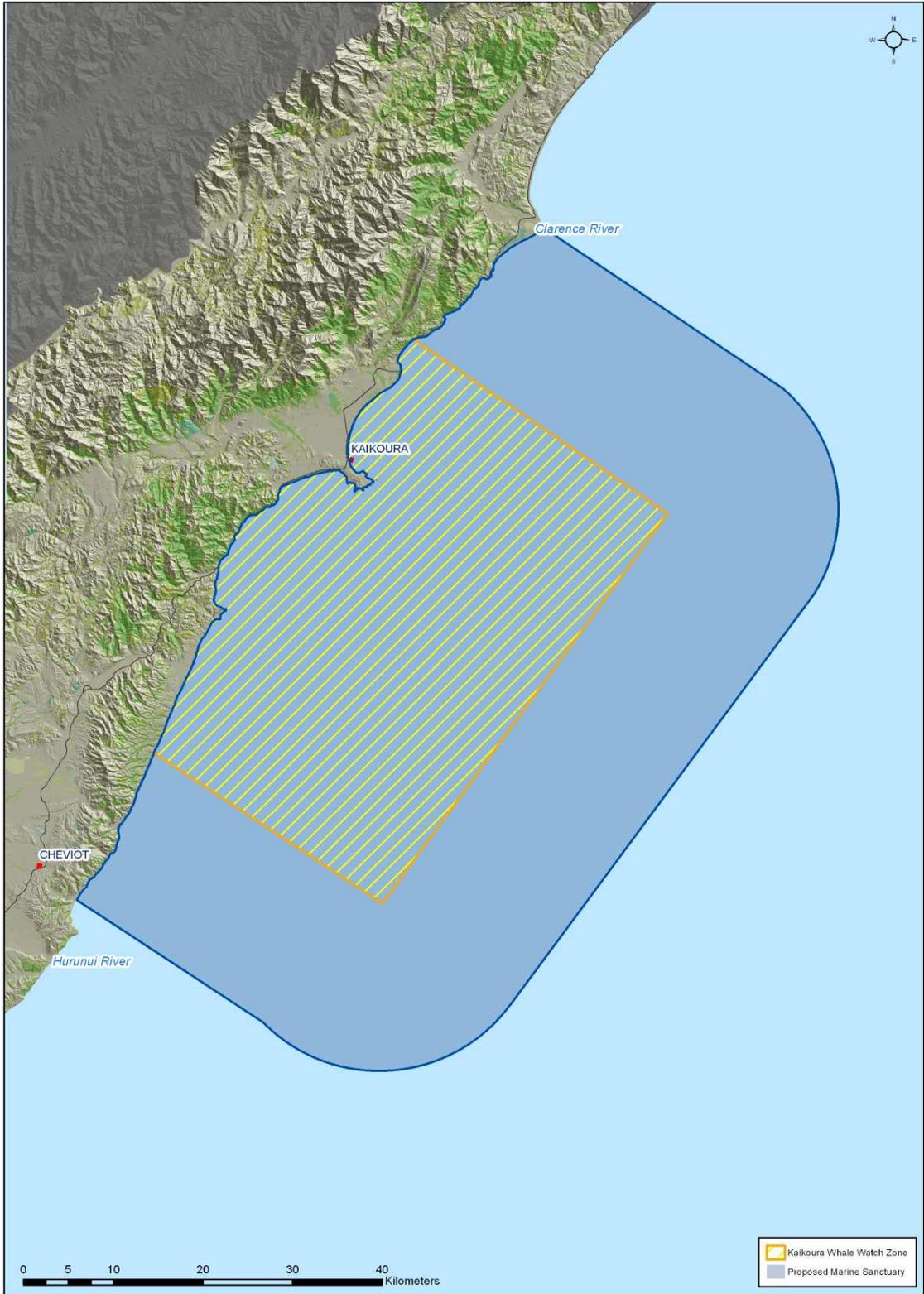


Figure 12 - Area proposed for a marine mammal sanctuary

The sanctuary would have layers of protection with the widest boundary involving long-term exclusion of seismic survey and other activities known to be harmful to whales and dolphins. Smaller areas could have specific rules to manage particular issues. The effects of the sanctuary are spelt out in the Sanctuary order and must be for the purpose of sustaining the well being of marine mammals.

This would be supplemented in the interim by local codes of practice for:

- Avoiding Hector's Dolphin entanglement in set net operations outside the closed area.
- Avoiding whale entanglement in craypot lines.
- Purse seine exclusion area.

Whales are an iconic species critical to the culture of Ngāti Kurī, the wider Kaikōura community and as a basis for the local tourism industry. Any activity that poses risks to the whale populations of Kaikōura needs to be actively managed. We want to see the whales stay, both in numbers and diversity around Kaikōura.

While all marine mammals are legally protected in New Zealand, their habitat is not. Marine Mammal Sanctuaries can be established throughout New Zealand fisheries waters to create a permanent refuge for marine mammals. There is already a set net exclusion area along the coast to protect the endangered Hector's Dolphins.

Such sanctuaries may prohibit activities known to harm particular marine mammal species. For example, a marine mammal sanctuary may not exclude all mineral prospecting, but may restrict what methods may be used and exclude activities such as seismic survey known to disturb marine mammals.

Under the Marine Mammals Protection Act, the Department of Conservation is responsible for administering and managing marine mammal sanctuaries. The marine mammal sanctuary could also include rules managing public access at Ohau Point to reduce the risks to visitors by restricting them to designated areas.

Te Korowai negotiated a special line around the Kaikōura Canyon for the East Coast set net ban introduced by the Minister of Fisheries to protect Hector's dolphins. Since then two dolphins have been killed at Kaikōura in set nets outside the exclusion zone. Te Korowai understands that the Ministry of Fisheries is unwilling to open up the question of the ban line until the Hector's Dolphin protection is reviewed as a whole. In the meantime Te Korowai will promote formation of local codes of practice for set net fishers to reduce the ongoing risk. If there are more recorded dolphin deaths, Te Korowai will seek an early review of the ban line.



Figure 13 - Kaikōura canyon set net prohibition

4.4.3 Protecting biodiversity hot-spots and representative areas

The goal of Te Korowai is to protect the most biologically rich and unusual areas of the Kaikōura coast and also representative slices of typical coast in their natural state.

The key solutions proposed by Te Korowai are marine reserve status over the globally important Kaikōura canyon biodiversity hot spot (Figure 14) with a connection to the coast South of Barney's Rock (Figure 16) and a rāhui within a taiāpure around the Kaikōura Peninsula (Figure 26).

Marine reserve for the Canyon

Marine reserves are the primary way of forming marine protected areas in New Zealand. They are the most comprehensive tool providing area-based biodiversity protection in the marine environment. Marine reserves protect areas in their natural state by excluding fishing and damaging activities such as mining. Marine reserves do not resolve all threats to the marine environment and integrated land and sea management is essential. This is covered further in Section 5 on Living Sustainably.

Marine reserves are used to protect both representative areas and special areas (see the text box below for Department of Conservation's description of the tool). Marine reserves have been criticised for displacing fishing effort to other places and for displacing customary management.

Marine reserves are specified areas of the sea and foreshore that are managed to preserve them in their natural state as the habitat of marine life for scientific study. Marine reserves may be established in areas that contain underwater scenery, natural features, or marine life of such distinctive quality, or so typical, beautiful or unique that their continued preservation is in the national interest.

Within a marine reserve, all marine life is protected and fishing and the removal or disturbance of any living or non-living marine resource is prohibited, except as necessary for permitted monitoring or research. This includes dredging, dumping or discharging any matter or building structures.

The public is welcome and encouraged to enjoy marine reserves. In all marine reserves you may: dive, snorkel, take photos, swim, kayak, anchor (with care), navigate through, picnic on the beach, build sand castles, investigate in rock pool.

<http://www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/marine-reserve-information/>

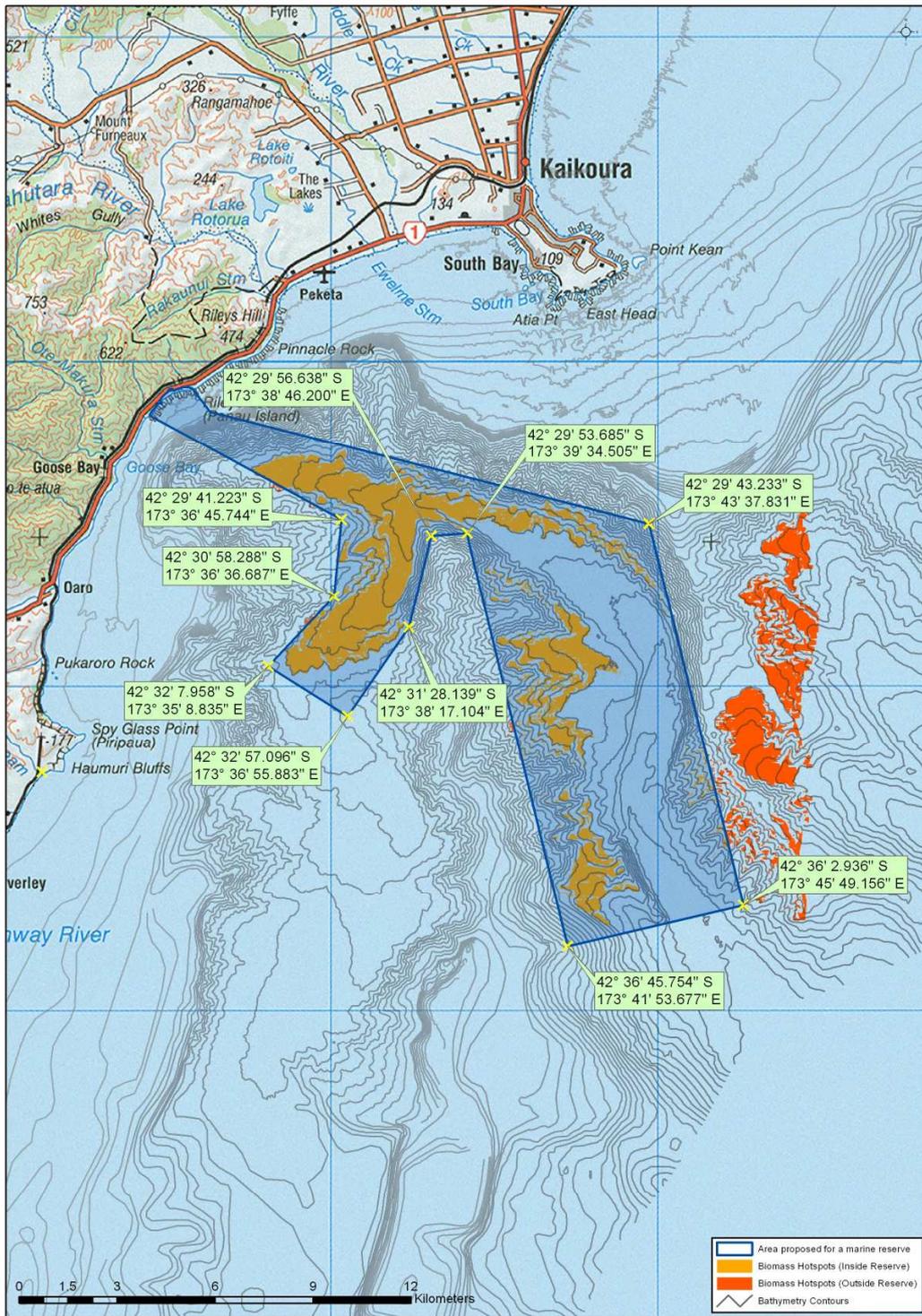


Figure 14 - Canyon area proposed for a marine reserve

Within Te Tai o Marokura, two biodiversity hot spots stand out. The Kaikōura Peninsula is an outstanding area for intertidal and nearshore biodiversity. The Kaikōura Canyon is internationally significant amongst areas below 900m deep for its biological richness and diversity. These areas form the natural focus for marine protected areas on the Kaikōura Coast. Te Korowai proposes that the core of the Kaikōura Canyon is protected under a formal marine reserve.

Information gathered by Te Korowai revealed set netting occurs on the slope of the Canyon down to more than 800m but there is little fishing known to occur over the high biodiversity areas which lie between 900m and 1100m. Including parts of the shelf and slope between 100m and 800m would offer some protection to these middle-depth communities and some refuge for mid-deep water sharks and rays.

The offshore lines selected for the proposed marine reserve (Figure 14) represents a compromise between the competing needs of minimising effects on known fisheries, protecting documented areas of high biological diversity and providing enough habitat diversity to include representation of as many ecological communities as possible.

Apart from the shore connection discussed below, the boundary proposed for the marine reserve involves:

- Including areas of documented and reliably projected areas of high benthic biological diversity.
- Including core documented sperm whale habitat without trying to cover all of the known whale areas.
- Straight lines to assist in compliance and enforcement.
- Avoiding areas of known fishing activity (noting that our information is more complete for set netting than for lining and trawling. New information can be expected to emerge in the submissions process that means revisions to boundary lines may need to be considered).
- Generally keeping at or below the 800m contour, but taking in shallower areas where straight lines cut across complex toe slopes and ridges.

We note that the depth of the reserve means that some special rules may be needed to avoid enforcement complications for known fisheries. In particular, strong currents and surface drift could lead to fishing gear (including surface floats and lines) inadvertently drifting into the reserve, especially during hauling. The submissions process is intended to allow these issues to be identified and considered.

This reserve will also protect the core habitat of sperm whales on the Kaikōura coast as shown in Figure 15.

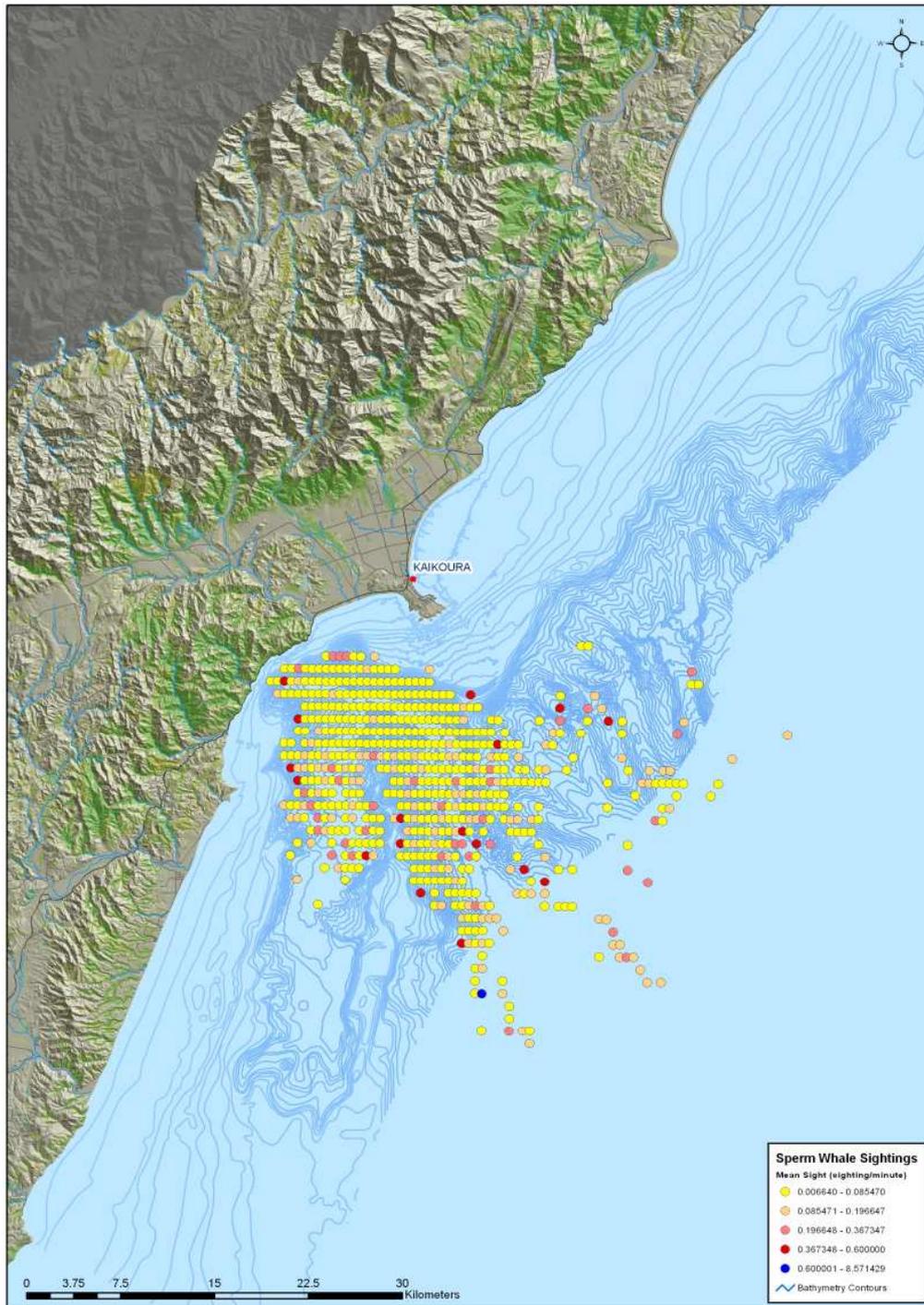


Figure 15 - Sperm whale sighting 1994 to 2001⁸

⁸ Data kindly provided by Dr Christoph Richter, Department of Biology, University of Toronto at Mississauga, Canada. Original data source: Richter, C. F. 2002. Sperm whales at Kaikoura and the effects of whale-watching on their surface and vocal behaviour. Ph.D. thesis, University of Otago, Dunedin

The biodiversity and research value of the reserve will be vastly increased if it can include a connection all the way to the high tide limit on the shore. Including the nearshore environments means that the typical, as well as the special, parts of the ecosystem are included. It also would reveal over time the way the natural environment functions in a connected way from the abyssal depths to the sunlit shallows, in the absence of human modification.

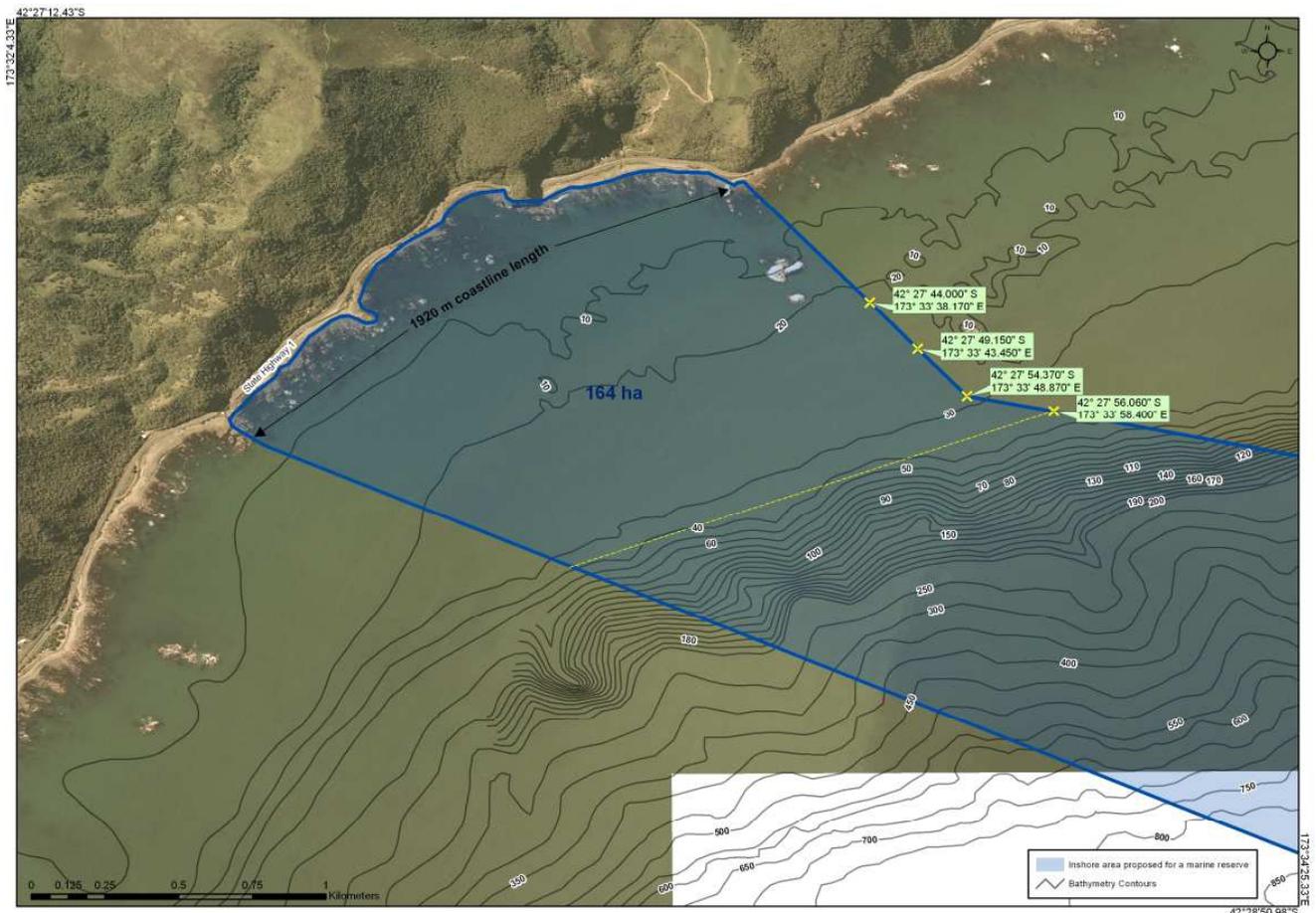


Figure 16 - Canyon marine reserve connection to the coast

Marine protection in the nearshore is a much more contentious matter. All of the rocky coast adjacent to the Canyon is heavily fished, recreationally, customarily and commercially. There is no place where fishing can be excluded without some effect on current fishing practices for paua and crayfish. Te Korowai has had lengthy discussions with commercial fishers operating in the area and the map below represents the least effect compromise that allows a useful length of shoreline to be protected. Any smaller and edge effects from fishing around the boundary,

compliance issues and loss of habitat diversity would sharply diminish the value of the shore connection.

Respecting Ngāti Kurī tikanga, and the desires of the local community, Te Korowai proposes that the reserve be formed with a commitment from the Minister of Conservation for a generational review of the performance of the reserve and its effects on the community after 25 years.

Rāhui for the Peninsula

The Kaikōura Peninsula stands out for its biodiversity, but is also the primary focus of human marine activity on this coast. It is the home of the urban centre, harbours, tourism, recreational and commercial fishing and is the primary place of Ngāti Kurī with its centre at Takahanga Marae. For more than 20 years the Royal Forest and Bird Protection Society has advocated a marine reserve on the Peninsula. Many boundaries, arrangements and compromises have been brought forward and debated.

At the same time everyone has recognised that the Peninsula is special, and worthy of care and protection. The Peninsula is also rich in landforms, history, and habitat complexity.



Kaikōura Peninsula - Dennis Buurman Photography

Accepting the importance of this place to the cultural identity of Ngāti Kurī, Te Korowai proposes in section 6.4.2 that the marine areas around the Peninsula be managed as a taiāpure under the Fisheries Act. This places the tāngata whenua in a leadership role, respecting their mana. At the same time, Ngāti Kurī wants to recognise the Peninsula as a shared resource and share kaitiakitanga for this place. Ngāti Kurī has made two commitments:

1. The management committee for the taiāpure will be made up equally of tāngata whenua and other local interests with the runanga providing the chair who would have a casting vote.

2. The regulations for the taiāpure will include one or more rāhui areas of a sufficient size to protect marine biodiversity where fishing will be excluded on a long term basis.

Te Korowai welcomes this leadership and these commitments and acknowledges the exercise of the mana of Ngāti Kurī over this place.

This has meant Forest and Bird representatives forgoing the opportunity to apply for a marine reserve around the Peninsula and Te Korowai acknowledge that gift to achieving a consensus decision on the future of Te Tai o Marokura.

4.5 Summary of gifts and gains for protecting our treasures

Gifts of protecting our treasures:

- ❖ Fishers gift fishing opportunities near Barney's rock.
- ❖ Fishers and mineral interests gift future exploitation of the Canyon.
- ❖ Environmental interests gift by minimising reserve size on the coast and by accepting loss of marine reserve opportunities on the Peninsula.
- ❖ Ngāti Kurī gift long term loss of fishing near Barney's Rock.

Gains of protecting our treasures:

- ❖ Long term protection for biodiversity in the Canyon.
- ❖ Assured protection for whales and dolphins from mineral exploitation.
- ❖ International recognition of Kaikōura.
- ❖ Protection of biodiversity on the Kaikōura Peninsula while recognising the mana of Ngāti Kurī.



5. *Living Sustainably*

5.1 *Objective*

The objective of Te Korowai is to sustain and enhance the quality of the Kaikōura coastal and marine environment.

Te Korowai is committed to:

- The environmental integrity of Te Tai ō Marokura.
- Protecting the natural character of the Kaikōura coast.
- Integrated management of land, sea and infrastructure.

5.2 *Background*

The environment of Kaikōura is a place where people live and make their livelihood. This place is also of national and regional interest noted in national and regional policies and plans.

This chapter sets out the values, issues and solutions for:

1. The whole of the land and sea environment of Kaikōura from the crest of the Seaward Kaikōura range to the floor of the canyon and the limit of the area required to safeguard the whale populations of Te Tai ō Marokura.
2. Four land and sea environments.

The four land environments (Figure 17) are:

- a. **Waipapa** - the cliffs and narrow coastal strip, shallow shelf and rocky reefs from the Clarence River mouth to Mangamaunu.
- b. **Kaikōura** - the coastal plains and hills with their backdrop of mountains from Mangamaunu to Peketa and the shelf, shingle beaches and rocky reefs around the Kaikōura Peninsula.
- c. **Ote Makura** - the cliffs and narrow coastal strip and the shelf, shingle beaches and rocky reefs from Peketa to Oaro centred on Goose Bay (Te Makura) together with the Kaikōura Canyon.
- d. **Haumuri** - the remote cliff backed coast from Oaro to the delta of the Conway River mouth together with the Conway Trough.

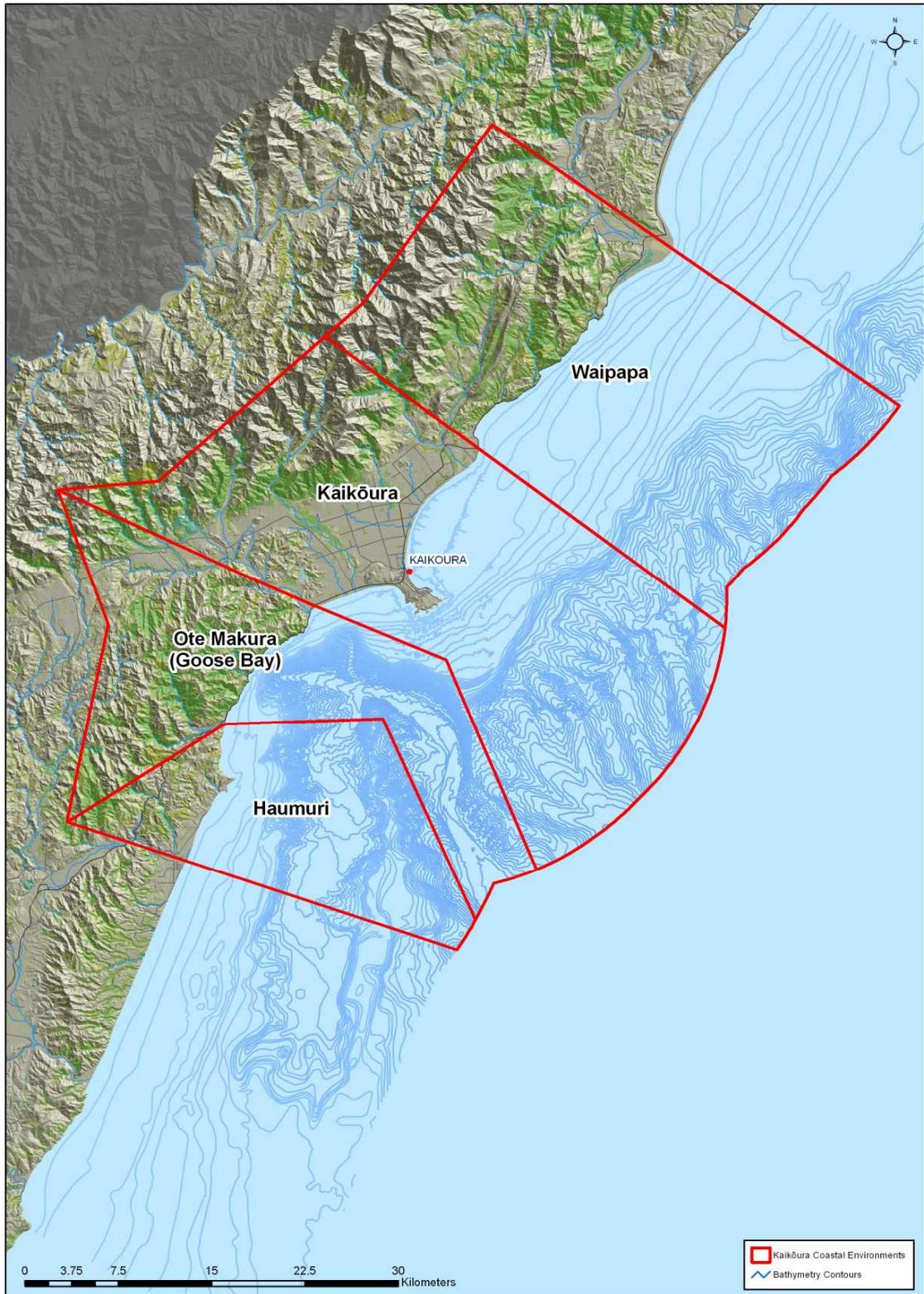


Figure 17 - Kaikōura coastal environments

Each environment has its own natural character:

- Waipapa** The Clarence River, building its delta and fuelling sediment flows creating sand/gravel beaches to the north, water inshore often sediment laden, limestone outcrops in steep uplifted hills, rugged wave lashed shores, steep bushy cliffs, profusion of reefs interspersed with subtidal boulder fields, broad marine shelf to 90m then continental slope to 1300m by 12nm with oceanic quality water.
- Kaikōura** Broad outwash delta, sand/gravel beaches, sediment laden water delivered by short steep rivers and nutrient enriched water from lower lying more intensively farmed areas, dramatic Kaikōura headland with broad intertidal rock platforms and numerous reefs, broad marine shelf to 90m then incised continental slope to 1600m by 12nm with oceanic quality water.
- Ote Makura** Steep short run catchments on steep coastal hills, rocky and boulder shores, lower sediment loading from the shore with clearer inshore water, huge active undersea canyon intercepts the active nearshore wave transport zone within 1km of the shore and reaches 1500m by 12nm and connects to the Hikurangi trench with periodic turbidity flows carrying sediment and nutrients all the way to East Cape.
- Haumuri** Conway delta to the south delivering sediment and building beaches along the shore as far as Spyglass Point, steep short catchments, erosional features including rocky shores and sea cliffs around and north of Spyglass Point, offshore the Conway Trough keeps the nearshore shelf narrow and a broad undersea ridge separates the trough to the deeper offshore water which reaches 1000m at 12nm.

At the scale of the whole coast, Te Korowai has noted the value people place on the Kaikōura coast for its:

- Visual quality.
- Amenity value.
- Recreational opportunities.
- Role as habitat for plants and animals.
- Cultural value.
- Utility for essential infrastructure.

These are detailed below.

Visual Quality

The 2010 landscape review conducted by Environment Canterbury rated the Kaikōura coast, Kaikōura Peninsula and Seaward Kaikōura Range as outstanding features and landscapes under the requirements of the Resource Management Act (see the text box below for part of this assessment)⁹.

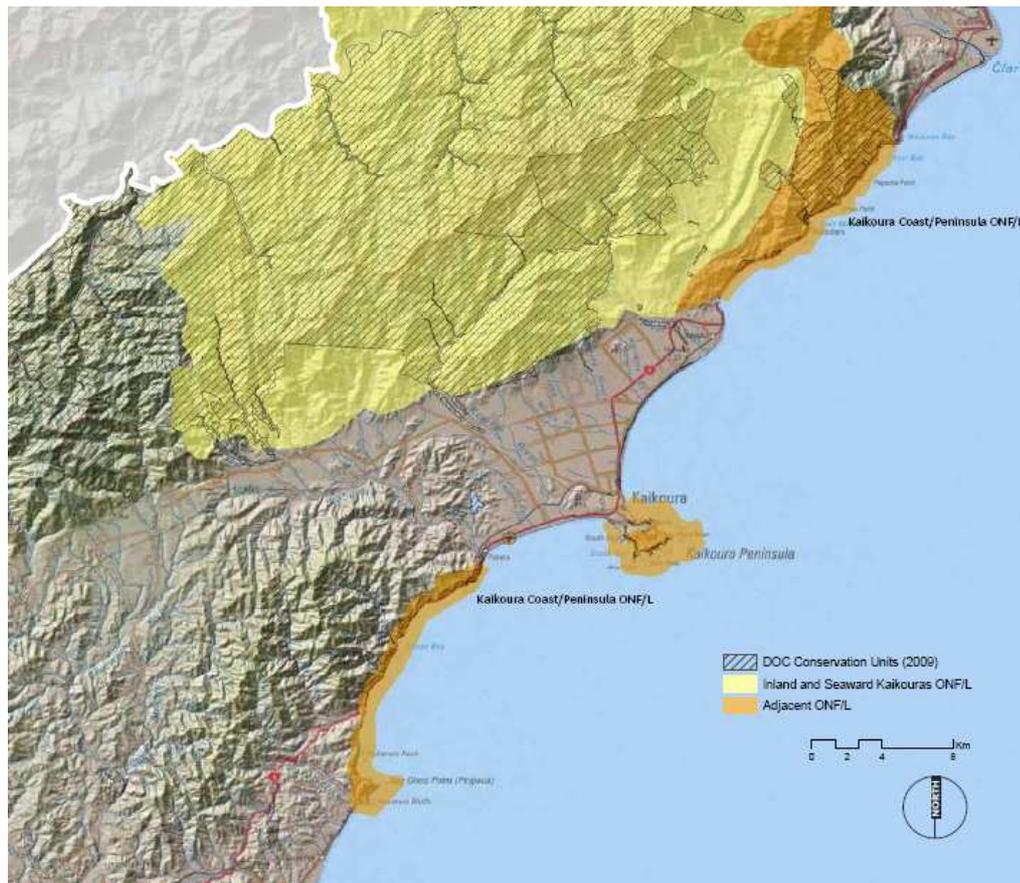
⁹ <http://ecan.govt.nz/publications/Plans/canterbury-regional-landscape-study-review-2010-section-d.pdf>

EVALUATION

The two sections of the Kaikoura Coast and Kaikoura Peninsula have been identified as an Outstanding Natural Feature and Landscape. These landscapes are outstanding due to their very high natural science, legibility, shared and recognised, transient, aesthetic, tangata whenua and historic landscape values.

The Kaikoura coastline, where the bush-clad and mountainous slopes meet a rocky shore, is dramatic. This visual connection between the coast and the mountains in close proximity is a unique characteristic of this landscape. State Highway One and the main railway line, which connect the Canterbury and Marlborough Regions, wrap around this coast and are major scenic routes. The coastal area is of very high importance for tangata whenua.

The Kaikoura Peninsula is a spectacular landform which protrudes sharply from the coast. This is a landscape with spectacular legible rock platforms, which supports an abundance of wildlife. The peninsula has high tourism value, many historic sites and is of great significance to tangata whenua.



Amenity value

Amenity values are well described by Ngātī Kurī in its Environmental Management Plan as *those natural and physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes....For Ngātī Kurī, this includes the ability to smell the sea, hear the waves, or have undisturbed celestial darkness. It also includes the ability to enjoy and appreciate natural and cultural landscapes, including views or important landmarks, significant places, or wāhi tapu.*

Recreational opportunities

Recreational opportunities abound along the Kaikōura coast. These range from camping and picnicking to commercial adventure and ecotourism.

Of note are the two surf breaks of national significance at Mangamaunu on State Highway 1 and the Meatworks break over the railway line at Hāpuku settlement. Regionally significant surf breaks have not been formally assessed. Possible candidates identified to date by Te korowai are at:

- Clarence Point.
- Sandy Bay.
- Wild rock (Half Moon Bay).
- Graveyards (opposite the Mangamaunu cemetery).
- Kahutara right-hand point break at the river mouth.
- Oaro breaks over shifting sandbars.
- Blue Duck Stream, north of Mangamaunu.
- Waipapa Bay.



Surfing Mangamaunu - Richard Craig

The great popularity of recreational fishing is covered in Chapter 3 and this is reflected in the importance placed on public access, boat launching opportunities and shore fishing and shore based diving.

This area is famous for its opportunities to view marine mammals and wildlife and supports a thriving ecotourism industry based around whales, dolphins, seals and seabirds.

Beaches and coastal reserves offer camping, picnicking opportunities and also support amenities associated with the State Highway. These areas are also used by people exercising dogs.

Role as habitat for plants and animals

The marine area of Kaikōura provides habitat for a huge range of plants and animals. These depend on the quality of the environment and the integrity of natural connections and interactions between land and sea. Of particular significance are:

- The role of water quality with a complex mix of warm and cold oceanic waters, deep water upwelling, and high sediment loads in rivers from eroding mountains.
- Nutrient flows between layers and bodies of seawater and from the land to the sea, and return flows to the land with seabirds creating areas of fertility high in the Seaward Kaikōura Range.
- Connections between the sea and freshwaters for migratory fish, with large wave-driven sediment transport in the nearshore closing river and stream mouths at times.
- Substrate stability or disturbance and smothering.

Cultural value

The cultural values of the area are well documented in the Te Runanga o Kaikōura Management Plan. They include the links provided by the landscape between the spiritual and physical worlds, ancestral connection, history, and places still used and valued for a wide range of activities. *Don't scar the treasures of our ancestors, the spiritual world will become ill, therefore so will the world of man.*¹⁰

Te Korowai has noted a large number of pre-European occupation sites including Pari Whakatau in the Hamuri area and wāhi tapu and historic sites around Oaro.

Utility for essential infrastructure

The Kaikōura coast hosts a considerable infrastructure. State Highway 1 interrupts its erosional interface which results in protective structures being built and rebuilt across the margin between land and sea. Commercial and recreational harbour facilities are clustered around the Kaikōura Peninsula and small boat ramps and launching structures are dotted along the coast. Stormwater structures have been constructed to carry water efficiently to the sea and to avoid erosion. Car parks, viewing areas and walking tracks have been constructed to enable and manage people's interaction with the coastal environment.

¹⁰ Brett Cowan, Te Runanga o Kaikōura.

5.3 Issues

Issues have been assessed to identify those that present likely threats to important values and where practical action is possible.

5.3.1 Issues for the whole coast

At the level of the whole coast, three critical issues have been identified:

- Protection of ecosystems and the habitat of wildlife.
- Development and use of the coastal area which is incongruent with the small town, rural and wild environments of Kaikōura.
- Marine biological invasion.

Ecosystems and wildlife

It was noted in Section 4.4 that issues for ecosystems and wildlife best controlled under the Resource Management Act and Local Government Act, would be dealt with in this section in an integrated way. Issues identified include:

- Risks for seals from State Highway 1 and the railway line.
- Risks for wildlife from pollution/plastic waste, conduct of boats including boat strike on seabirds, affects on coastal nesting sites by people and vehicles, and shore lighting.
- Beach and seabed mining disrupting habitat.
- Future aquaculture development compromising habitat and acting as a vector for biosecurity threats.
- Run-off from land (nutrient loading, sedimentation and bacterial contamination).
- Accumulation of persistent toxins and biologically active substances washed down rivers accumulating particularly in the Kaikōura Canyon and Conway Trough.
- More coastal development and increasing people pressure.
- State Highway 1 as a source of pollution.
- Freshwater abstraction.
- River mouths closing during periods of fish migration.
- Habitat degradation from shore development or trampling.

Use and development in the coastal environment

The natural character of the coastal environment can be adversely affected by large scale land use changes such as land clearance or conversion to exotic plantations. Kaikōura District Council has an operative District Plan (23 June 2008) and the area is also subject to Environment Canterbury's Regional Coastal Environment Plan (November 2005). These two major controls on the Kaikōura coastal environment are not well integrated with one another and both need to be updated to give effect to

the newly revised New Zealand Coastal Policy Statement 2010. This has new requirements relevant to Kaikōura including consideration of biosecurity and surf breaks of national significance.

Issues to be managed include:

- Maintenance of water quality to avoid adverse effects on human health from seafood.
- Management of riparian margins and avoiding adverse effects from intensification of agricultural land use.
- Subdivision on coastal margins.
- Avoiding structures in the marine environment that would adversely affect surf breaks of national and regional significance.
- Public access to culturally important areas such as wāhi tapu sites.
- Ensuring appropriate development and maintenance of facilities, such as the Kaikōura boat harbours, that require a coastal location.
- The effects of sea-level rise and storm surges and increased wave energy expected with climate change.
- Managing access in a way that enables appropriate public access taking into account implications for fisheries management, wildlife disturbance and effects on sites of cultural importance and sustaining “remote” experiences in areas currently less visited.
- Providing for restoration and maintenance of native vegetation for its role in the landscape, its value in riparian and coastal buffers and as habitat for wildlife.
- Restoration and maintenance of coastal lakes and freshwater wetlands both for their habitat value for migratory and coastal species and also for the buffering capacity they have on run-off to the sea.
- Management of weeds and pest on coastal land for their adverse visual effects and effects on wildlife and habitat values.

Potential habitat degradation in the sea

To date, fisheries habitat around Kaikōura has allowed very high local productivity. Future development could change that.

Effects of human activity around Kaikōura have had limited impact on fish habitat. There has been some small scale pollution of streams and rivers entering the sea, and some effects on the sea bottom from trawling. But in the context of the coast as a whole, these have been minor.

As technologies change, and as demand for sea based resources increases, new activities may affect Kaikōura. For example:

- Marine seismic survey for oil exploration began in the Kaikōura area in the 1980s with further surveys in 2009.

- The Minister of Fisheries has decided to set quota for harvesting the brown seaweed *Macrocystis* that is a particularly important part of the Kaikōura marine environment.
- The Government is moving to open more of the coast to marine farming and new technology developments are taking marine farming into areas traditionally not considered suitable.

Open-sea mussel farm gets approval

By MARTA STEEMAN - The Press
18/12/2009

GO AHEAD: The MoF has given an experimental mussel farm the green light

A huge, open-sea "experimental" mussel farm off the coast of Canterbury has been given the green light. It is expected to create 200 jobs, mainly in Christchurch. The Ministry of Fisheries' approval is the culmination of 10 years of research and consultation by the joint-venture companies Ngai Tahu Fisheries, Marlborough Mussel Company, owned by Dunedin's Skeggs family, and Pegasus Bay Aquaculture. The Ministry yesterday announced approval for 10 marine farms in the South Island, including the 2695-hectare Pegasus Bay mussel farm 14 kilometres offshore from Woodend. Approval has also been given for a 424ha mussel farm in Clifford Bay on Marlborough's east coast, 700 metres offshore. The eight other marine farms are mostly extensions to Marlborough Sounds mussel farms. The Government yesterday also signaled reform of aquaculture legislation that could open the door to farming of fin fish and other seafood.

Marine biosecurity

Kaikōura is vulnerable to marine biological invasion through international vectors. The area is most subject to marine traffic from domestic ports and from recreational boats arriving by road. There is also some visitation from further afield.

A May 2008 National Institute of Water and Atmospheric Research review for the Top of the South Island Marine Biosecurity Strategy identified the issues below.¹¹

¹¹ **Review of existing information on marine biosecurity in the top of the South Island.** Prepared for MAF Biosecurity New Zealand by Donald Morrissey and Sheryl Miller, NIWA, MAFBNZ Technical paper series; 09/02. May 2008.

A number of non-indigenous species with known adverse ecological and/or economic effects already occur in the coastal marine area of the top of the South Island and in Canterbury. These include:

- the saltmarsh cordgrass *Spartina anglica*
- the Pacific oyster *Crassostrea gigas*
- the kelp *Undaria pinnatifida*, and
- the sea squirts *Didemnum vexillum* and *Styela clava*

A 2005 survey by NIWA at Kaikōura¹² reported that only one species currently listed on the New Zealand Register of Unwanted Organisms recorded from the Kaikōura port survey, the Asian seaweed *Undaria pinnatifida*.

Four further taxa of current concern in Australasia were recorded during the Kaikōura port survey:

- the exotic ascidian *Didemnum* sp. and
- three potentially toxic diatoms considered native in New Zealand due to their cosmopolitan oceanic distributions (*Pseudo-nitzschia australis*, *Chaetoceros concavicornis* and *C. convolutus*)

No target organisms were identified from any of the zooplankton samples from Kaikōura. These are:

- the Chinese mitten crab *Eriocheir sinensis* or other members of this genus,
- the European green crab *Carcinus maenas*,
- the northern Pacific seastar *Asterias amurensis*, and
- the ascidian *Styela clava*).

The report on the 2005 survey noted that *there is almost no international shipping traffic to Kaikōura. Furthermore, many non-indigenous species introduced to New Zealand ports by shipping do not survive to establish self-sustaining local populations. The risk of new introductions from overseas to Kaikōura is therefore very low. Nonetheless, the consequences of a marine invasion in such a relatively valued marine environment could be severe.*

It identified *the expected increase in cruise ship visits with the planned creation of new wharf structures could also present an increased risk of new marine invasions. Those coming from southern Australia probably present the greatest potential risk of introducing new non-indigenous species to Kaikōura, both because of the relatively short transit time (approximately two days for a cruise ship) and because of similarities in coastal environments between these locations. Six of the eight marine pests on the New Zealand Register of Unwanted Organisms are already present in*

¹² Kaikōura - First baseline survey for non-indigenous marine species (Research Project ZBS2005/19)

southern Australia (*Carcinus maenas*, *Asterias amurensis*, *Undaria pinnatifida*, *Sabella spallanzanii*, *Caulerpa taxifolia*, and *Styela clava*). The native range of the other two species - *Eriocheir sinensis* and *Potamocorbula amurensis* - is the north western Pacific, including China and Japan.



Cruise ship at Kaikōura - Dennis Burman Photography

5.3.2 Issues for the Waipapa Environment



Figure 18 - Waipapa environment

People pressure is focused along a very narrow strip beside the coastal highway from the Clarence River mouth to Mangamaunu. The critical issues are:

- Management of the privately owned cliffs that form the backdrop of the area - particularly earthworks and vegetation clearance.
- Management of the interaction of seals and people, including safety on State Highway 1.
- Development of road and rail infrastructure, particularly the seaward margins.
- Protection of water quality by control of discharges near the proposed mātaimai at Mussel Rock and Mangamaunu.
- Pressure for development and subdivision at Mangamaunu and other areas along the coast.
- Provision of facilities and access for the surfing population.
- Proposals to dam the Clarence and alter its natural and sediment flow regimes.



Clarence River mouth - Lynda Kitchingham

Critical issues for the northern shallow shelf and rocky reefs from the Clarence River mouth to Mangamaunu are:

- Development of road and rail infrastructure that can involve destruction of coastal features.
- Trawling affecting seabed habitat.
- Any marine farming development.
- Changes to the natural flow regimes and water quality of rivers.



State Highway 1 - Lynda Kitchingham

5.3.3 Issues for the Kaikōura Environment

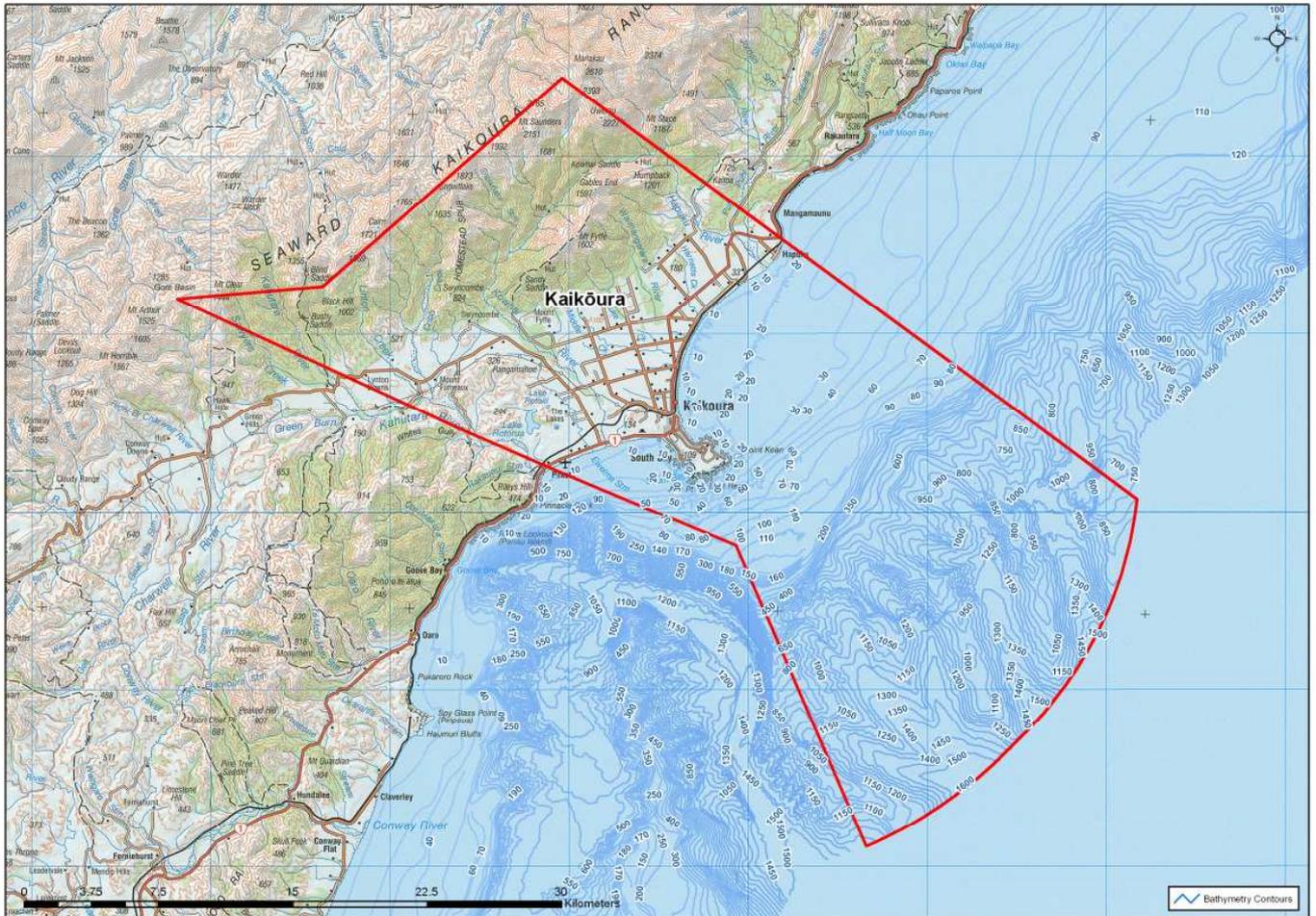


Figure 19 - Kaikōura environment

The coastal plains and hills with their backdrop of mountains from Mangamaunu to Peketa are where the interaction between people and the coastal environment is most intense. The critical issues are:

- “Loving the place to death” as tourist numbers keep increasing with associated infrastructure and pressures from recreational use.
- Pressure for large scale development.
- Restoration of the degraded Lyell Creek.
- Management of urban waste and run-off from the settlements around the Kaikōura Peninsula, particularly to protect water quality in the Peninsula taiāpure and freshwater mātaimai.
- Protection of lowland lakes and wetland complex around the Kahutara River.



South Bay - Dennis Buurman Photography

Critical issues for the shelf, shingle beaches and rocky reefs around the Kaikōura Peninsula are:

- Further harbour development and security of fuels and waste in wharf areas.
- “Loving the place to death” as tourist numbers keep increasing with associated infrastructure and pressures from recreational use.
- Potential discharge of human waste into a culturally important marine resource.
- Elevated marine biosecurity risks around the high use areas of the Kaikōura Peninsula.
- Any marine farming development.
- Changes to the natural flow regimes and water quality of rivers.



Kaikōura Esplanade - Lynda Kitchingham

5.3.4 Issues for the Ote Makura Environment

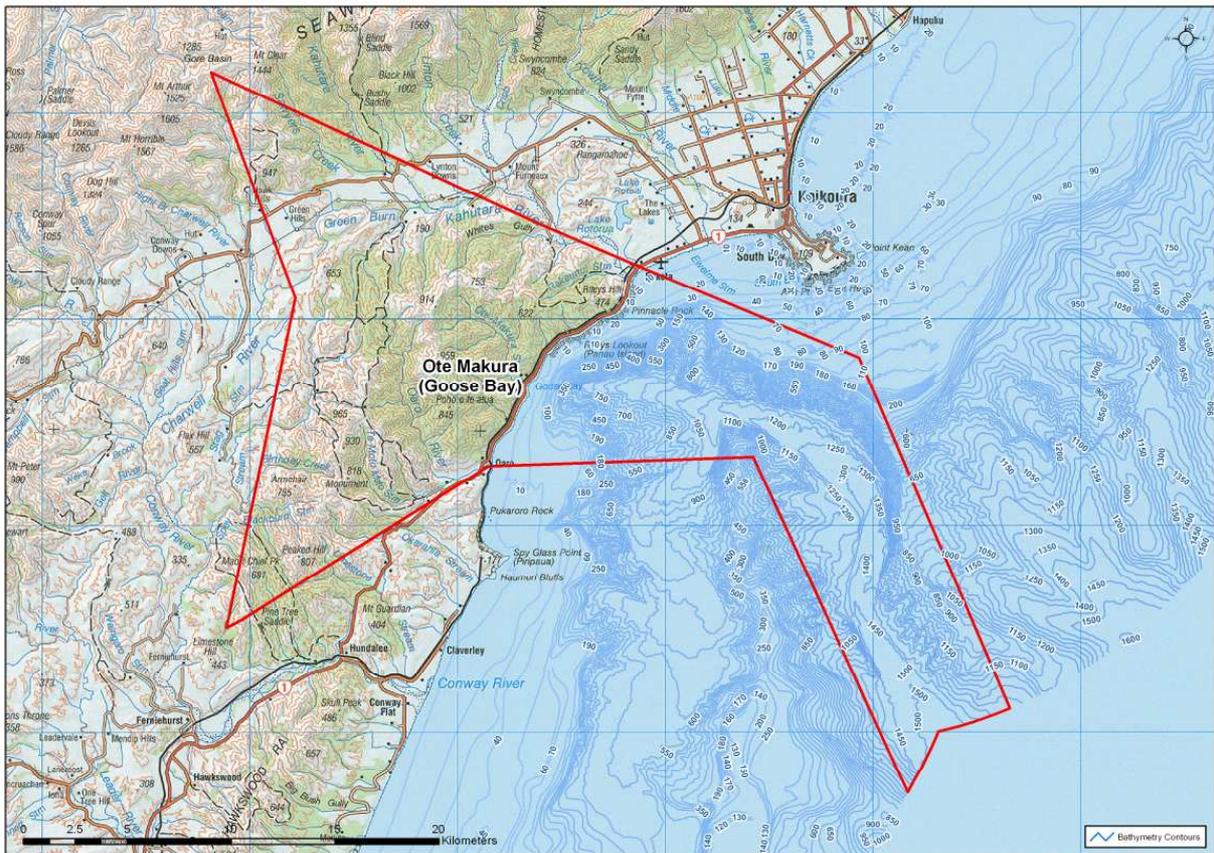


Figure 20 - Ote Makura environment

The critical issues for the cliffs and narrow coastal strip from Peketa to Oaro are:

- Development of road and rail infrastructure particularly the seaward margins.
- Need for improved parking and toilet facilities for visitors to the new marine reserve.
- Potential for increased public access, subdivision and development.
- Protection of traditional occupation sites.
- Management of the interactions of seals and people including safety on State Highway 1.



Ote Makura coastline - Gina Solomon

Critical issues for the shelf, shingle beaches and rocky reefs Peketa to Oaro are:

- Development of road and rail infrastructure that can involve destruction of coastal features.
- Trawling affecting seabed habitat.
- Any marine farming development.
- Changes to the natural flow regimes and water quality of rivers.

Critical issues for the Kaikōura Canyon are:

- Obstruction of the long shore transport of organic material that fuels high biodiversity of the canyon floor.
- Accumulation of persistent toxic substances in sediment.
- Development of deep sea trawling technology affecting seabed habitat.
- Potential oil and gas mining.

5.3.5 Issues for the Haumuri Area

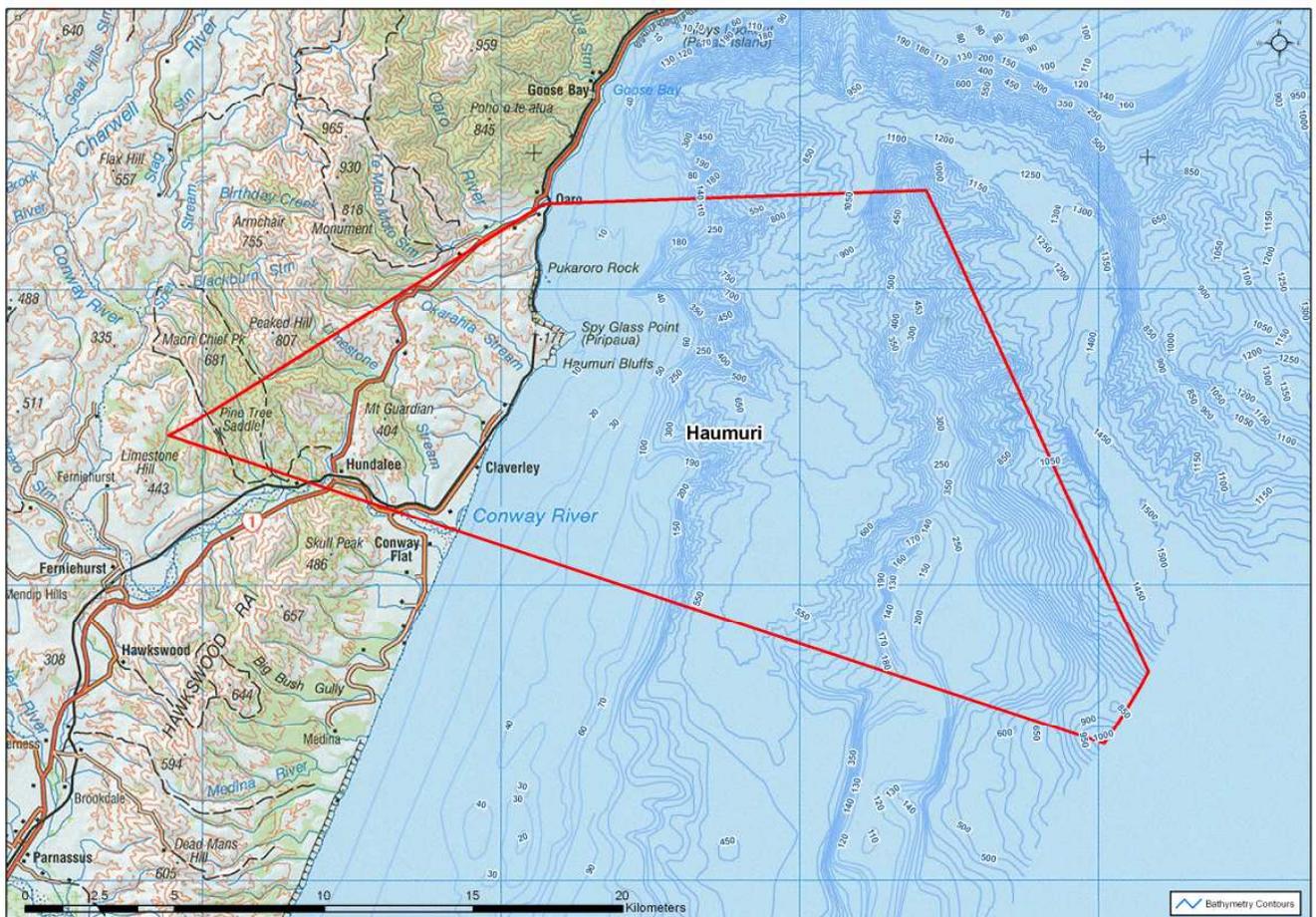


Figure 21 - Haumuri environment

Critical issues for the remote cliff backed coast from Oaro to the delta of the Conway River mouth are:

- Potential for increased public access, subdivision and development.

- Managing vehicle access through Oaro to protect the remoteness of this section of coast.
- Management of the rail corridor.
- Protection of traditional occupation sites.
- Protection of water quality in the Oaro mātaimai and taiāpure and the Conway River mātaimai.
- Conway River lagoon water quality.
- Any marine farming development.
- Changes to the natural flow regimes and water quality of rivers.

Critical issues for the Conway Trough are:

- Accumulation of long term toxic substances in sediment.
- Development of deep sea trawling technology affecting seabed habitat.
- Potential oil and gas mining.
- Loss or inputs of organic material from the active Kaikōura Canyon.



Oaro - Gina Solomon

5.4 Solutions

Living sustainably in the Kaikōura coastal environment will require integrated land and water planning and with resource management processes under local control.

Legally, environmental management outside protected areas is governed by a suite of laws, principally the Resource Management Act and Biosecurity Act, but also many others. This section looks at the effects of people on the general physical and biological environment from activities other than fishing, which is covered in detail in section 3.

5.4.1 Integrated land and sea management

The goal of Te Korowai is integrated land and sea management that safeguards the sustainable use of Te Tai ō Marokura.

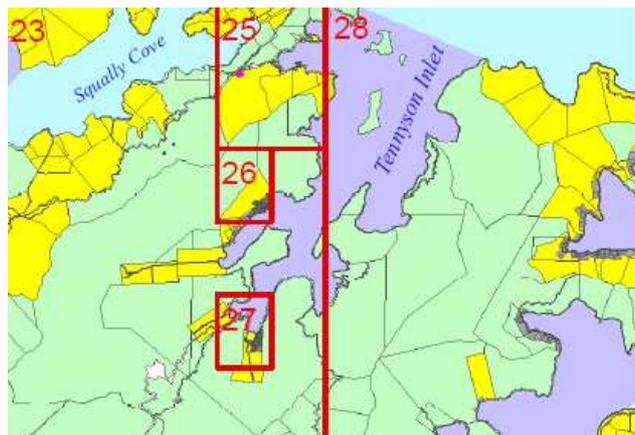
The key solution is development of an integrated land and water plan for the Kaikōura coast.

Land use planning is primarily a job of the Kaikōura District Council and water management and coastal planning belongs to Environment Canterbury.

Under the Resource Management Act it is possible for a single plan to be created that deals with these issues in an integrated way. Such plans exist for a number of places around New Zealand. The Plans for the Marlborough Sounds and Wairau Awatere completed by the Marlborough District Council are good examples of what can be done.

Marlborough Sounds Resource Management Plan

The purpose of the Marlborough Sounds Resource Management Plan is to promote the sustainable management of the natural and physical resources of the Marlborough Sounds area including the coastal environment. The Plan is a combined Plan containing the regional, regional coastal and district plans for the Marlborough Sounds area. The Plan sets out the objectives and policies and methods, including rules for the Marlborough Sounds area.



<http://www.marlborough.govt.nz/Your-Council/RMA/Marlborough-Sounds-Resource-Management-Plan.aspx>

This situation in Kaikōura is more complex as the roles here are held by two bodies rather than by one as is the case in Marlborough. What is required is a three-cornered relationship between Environment Canterbury (regional focus and coastal planning expertise), Kaikōura District Council (local focus and land management expertise) and Te Korowai (citizen and iwi connection, in-depth analysis of the issues and a comprehensive framework of solutions for the full range of issues).

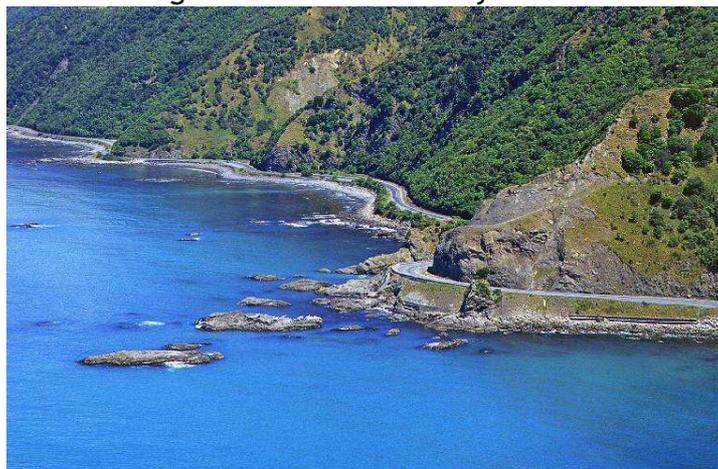
There are limited controls on public and vehicle access to coastal sites and no legal controls on shore lighting, all of which have the potential to adversely affect seabirds. As part of integrated planning, Te Korowai will explore how these matters could be controlled under the Resource Management Act or Local Government Act. Te Korowai will also promote public education and awareness and could seek legal controls through Council by-laws, under the District Plan, Regional Coastal Plan or by seeking the formation of wildlife sanctuaries and refuges under the Wildlife Act.

5.4.2 Highway management

The goal of Te Korowai is integrated highway management, management of public access and amenities and environmental protection.

The key solution is a public access and highway management plan for the Kaikōura coast.

The Kaikōura portion of State Highway 1 and the rail line interrupts an erosional interface between the sea and the land. Traffic, trains, visitors, locals and wildlife are all constrained to exist together in an extremely narrow corridor.



State Highway 1 - Dennis Burman Photography

The provision of physical works such as barriers and rest areas has a major affect on the patterns of use of the coastal environment.

Work on the road and rail infrastructure can have major effects on the local landscape and the natural environment.



Erosion on State Highway 1 - Dennis Buurman Photography

Regional transport planning is a function of Environment Canterbury. Local amenities and freedom camping are largely the responsibility Kaikōura District Council. Department of Conservation manages wildlife and provides visitor amenities. The New Zealand Land Transport Agency manages the State Highway Network. These agencies need to work together effectively to provide the mix of rules, information and physical works required to achieve the goals of this strategy.

Te Korowai will promote a joint action plan by these four agencies that will detail what is required for the next ten years.

5.4.3 Marine biosecurity

The goal of Te Korowai is to prevent harmful organisms becoming established in Te Tai ō Marokura.

The key solution is effective marine biosecurity protection for Kaikōura through joint efforts by local, regional and national partners.

Activities required for effective marine biosecurity for Te Tai ō Marokura are:

- Marine biosecurity education and advocacy activities.
- Integration of local and regional biosecurity with national marine biosecurity systems.
- Access to regional intelligence, resources and organisational structures.
- Operational resources for local participation in nationally-led activities (e.g. personnel and boats).
- Coordination of local surveillance programmes including stakeholder involvement.

In the report on the 2005 port survey¹³ it was noted that: *the Biosecurity Act 1993 and the Import Health Standard for Ships' Ballast Water from all Countries (Biosecurity New Zealand 2005) exist to reduce the risk of new marine invasions arriving in New Zealand via hull fouling and ballast water. In addition to these legal instruments, vessels operating in Kaikōura are requested to follow voluntary guidelines to reduce the risk of marine invasions in Kaikōura. These include:*

- *There must be no cleaning hulls below the water line and running gear within coastal areas.*
- *Cleaning on shore must occur above the high tide mark and ensure that no fouling material or contaminated water could re-enter the sea (Te Korowai ō Te Tai ō Marokura (Kaikōura Coastal Marine Guardians) 2007).*

To achieve these objectives Te Korowai needs regional partners to:

- Use regional powers of regulation under the Resource Management Act, Biosecurity Act and Local Government Act to support regional marine biosecurity.
- Use powers as owners and managers of local ports, marinas and other areas of intense marine activity to enhance marine biosecurity.
- Provide funding according to legal responsibility, capacity to pay, and according to agreed priorities.
- Use such other powers and resources (e.g. Harbour Master roles) as appropriate to support regional marine biosecurity.

The newly released Pest Management National Plan of Action (3 March 2011) says: “National and regional partnerships are proving to be successful in improving pest management performance in the marine environment. By extending this approach to all parts of New Zealand and all aspects of marine pest management, responsible parties will grow to understand how to make their overlapping roles work in practice.”

This initiative provides the basis for Te Korowai to get the marine biosecurity protection Te Tai ō Marokura needs. To make this effective, Te Korowai will:

1. Identify to MAF Biosecurity and Environment Canterbury that Te Korowai is a key marine biosecurity partner.
2. Encourage Environment Canterbury, the Otago Regional Council CRAMAC5, Paua3 and other interested parties to form a regional marine biosecurity partnership modelled on the Top of the South model.
3. Link with the National Institute of Water and Atmospheric Research in the regular programme of marine biosecurity survey.

¹³ Kaikoura First baseline survey for non-indigenous marine species (Research Project ZBS2005/19), MAF Biosecurity New Zealand Technical Paper

5.5 Summary of gifts and gains of living sustainably

Gifts of living sustainably:

- Environment Canterbury and Kaikōura District Council gift autonomy to local leadership in Resource Management Act planning.
- The four authorities gift autonomy to local leadership in highway and amenity planning.
- MAF Biosecurity and Environment Canterbury gift support to the development of local marine biosecurity capability.
- Te Korowai gifts time and effort to pick up leadership roles.

Gains of living sustainably:

- Integrated planning for management of land and sea.
- Increased confidence in environmental sustainability and landscape integrity.
- Better biosecurity.
- Local control.



Waipapa Coast - Lynda Kitchingham

6. Sustaining Customary Practices

6.1 Objective

The objectives of Te Korowai are that traditional fishing areas of special significance to Ngātī Kurī restored and maintained and traditional knowledge (mātauranga) and customs (tikanga) of Ngātī Kurī are utilised to protect the fisheries of Te Tai ō Marokura.

Te Korowai is committed to:

- Sustaining Ngātī Kurī as the tangata moana of Te Tai ō Marokura.
- Providing for tāngata whenua control of key food baskets.
- Shared leadership for culturally important areas.
- Effective use of customary management practices.
- Securing public support for all of this.

The overall approach is to support implementation of the tools provided by Government following the Treaty settlement on fisheries. The settlement means that the commercial interests of Ngātī Kurī in fisheries have been provided for in the settlement package. The site specific interests of the iwi are to be recognised in the use of special provisions under the Fisheries Act. Ngātī Kurī has held its use of these provisions pending the comprehensive discussions of the Te Korowai process.



By courtesy of Canterbury Museum.

Sketch by F. A. Weld, 13th December, 1850, near Amuri (Haumuri) bluff and Mikonui, North Canterbury.

6.2 Background

Kaitiakitanga

Kaitiakitanga is the exercise of guardianship by the tāngata whenua of an area in accordance with tikanga Māori. For Ngāi Tahu whānui, there is a kaitiakitanga obligation to safeguard the wellbeing and mauri of ancestral land, water, sites, wāhi tapu, valued flora and fauna, and other taonga in the Ngāi Tahu takiwā for future generations.

As far back as 700 years ago, the earlier peoples of what is now the Ngāi Tahu takiwā, had mana and authority over land, sea and water. The Ngāi Tahu ancestors who intermarried with those peoples assumed the mana of the whenua. They continued to sustainably manage and protect the mauri of the marine fisheries. Today, Ngāi Tahu Whānui remain committed to this task.

Traditional values and uses

The Kaikōura coastline took its name from Tama ki te Rangi, who visited during his explorations and caught and cooked crayfish over an open fire there. From this event the area was named Te Ahi Kai Kōura a Tamakiterangi (the crayfish-cooking fire of Tamakiterangi).

Because it was an attractive place to build permanent settlements, including pā (fortified settlements), the coast was visited and occupied successively by Rapuwai, Ngāti Wairangi, Waitaha, Ngāti Mamoe and Ngāi Tahu, who through conflict and alliance have merged in the whakapapa (genealogy) of the Ngāi Tahu whānui. The struggles, alliances and marriages arising out of these migrations eventually resulted in a stable, organised and united series of hapū, located at permanent or semi-permanent settlements along the coast that corresponded with mahinga kai sites.

Mahinga kai refers to the custom of gathering food. It encompasses the life-supporting food itself, the place it is found, and the practice of gathering it. Mahinga kai involved great seasonal hīkoi (journeys) to gather kai from the mountains to the sea (ki uta ki tai).

The mahinga kai custom underpins Ngāi Tahu culture. It is central to the tribe's relationships with places, species and resources, to their cultural, spiritual, social and economic wellbeing, and is a vehicle for transferring traditional knowledge from generation to generation.

As well as the crayfish for which Kaikōura is famous, the whole area offered a bounty of mahinga kai, including:

- A range of kaimoana (seafood).
- Freshwater resources from lagoons and rivers.
- Marine mammals (whale meat and seal pups).
- Waterfowl.
- Seabird eggs and forest birds.
- A variety of plant resources.

The near-inshore fisheries (typically 1-2 nautical miles from the coast) were heavily targeted for shellfish, cartilaginous and bony fish (rocky-reef dwellers, demersal and pelagic), and seaweeds such as rimurapa and karengo.¹⁴

Fishing outside this zone (i.e. offshore) was sporadic, and mainly for hāpuku. Te Ika Whataroa was one of these tauranga ika (offshore fishing grounds). Most offshore fishing occurred within about 12 nautical miles of the shore.¹⁵

Ngāti Kurī's coastal mahinga kai sites were spread throughout their takiwā (district); however, the most significant traditional fishing areas included:¹⁶

- Waiau-toa (Clarence River) and coastal area
- Waipapa Bay
- Okiwi Bay
- Half Moon Bay (Umu Taoroa, the long-cooking oven)
- Ōhau Point
- Paparoa Point
- Rakautara Stream and coastal area
- Mangamaunu
- Hāpuku River and coastal area
- Waikowau (Lyell Creek)
- Te Ahi Kaikōura Tama ki Te Rangi (Kaikōura Peninsula, including Waiōpuka)
- Te Ika Whataroa (Tauranga Ika offshore from Kaikōura Peninsula)
- Kōwhai River (Wai o Ruarangi, the original name)
- Kahutara River (Peketa)
- Tokaanau (adjacent to Parititahi coastline)
- Parititahi coastal area
- Raramai (Riley's Lookout)
- Te Makura (Goose Bay)
- Ōmihi coastal area
- Oaro River, lagoon and coastal area
- Mikonui coastal area
- Haumuri coastal area (Haumuri Bluffs)
- Okarahia Stream
- Te Pariwhakatau coastal area
- Tūtae Putaputa (Conway River) and coastal area
- Kiekie
- Paia Point (Whakauae).¹⁷

The tūpuna (ancestors) had profound knowledge of the coastal environment and weather patterns, passed from generation to generation. This knowledge continues to

¹⁴ Higgins and Goomes (1988) and Waitangi Tribunal (1992).

¹⁵ Ibid.

¹⁶ Anderson (1998), Brailsford (1997), Cooper (1989), Environment Canterbury (2005), Higgins and Goomes (1988), Solomon and Howse (1988), Te Rūnanga o Kaikōura (2005), Trotter and McCulloch (1998).

¹⁷ Areas outside the scope of the Te Korowai o Te Tai o Marokura strategy have not been included.

be held by whānau and hapū, and is regarded as a taonga. The traditional mobile lifestyle of Ngāi Tahu people led to their dependence on the coast's resources.

Numerous urupā (cemeteries) have been exposed or eroded along of the coast. Water-burial sites, known as waiwhakaheketupapaku, are spiritually significant and linked with important sites on the land. Places where kaitāngata (the eating of those defeated in battle) occurred are wāhi tapu. Urupā are the resting places of Ngāi Tahu tūpuna, and as such are the focus of whānau traditions. These places hold the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are often protected.

The mauri (life force) of the coast binds its physical and spiritual elements, generating and upholding all life. Every aspect of the natural environment possesses a life force, and all forms of life are related. Mauri is critical to Ngāi Tahu's spiritual relationship with the coastal area.¹⁸

Tikanga are the customs and traditions, handed down through many generations, that govern the use and conservation of the environment. These management practices enabled Ngāti Kurī to sustainably harvest and conserve their fisheries. Traditional fisheries management included restrictions on harvesting, known as rāhui.

Rūnanga governing principles associated with Te Tai ō Marokura

Te Rūnanga ō Kaikōura has developed a comprehensive environmental management plan, which includes a section about Te Tai ō Marokura. An overriding principle of the plan is 'ki uta ki tai', or a holistic mountains-to-sea philosophy.

Rūnanga governing principles associated with Te Tai ō Marokura are, that:

- Ngāi Tahu whānui- current and future generations - are able to exercise their customary rights and responsibilities associated with coastal and marine environments as guaranteed by the Treaty.
- Coastal and marine biodiversity is protected and enhanced.
- Coastal and marine areas important to Te Rūnanga o Kaikōura are enhanced and restored.
- The realm of Tangaroa flourishes, and the mahinga kai of Tangaroa is readily available to tāngata whenua and their communities.
- The relationship between land and aquatic ecosystems is recognised and provided for in all decision-making relating to the coast.
- The adverse impacts of human activities on coastal and marine environments are avoided, remedied or mitigated at all times.
- Research and monitoring of coastal and marine areas are supported and encouraged to provide baseline information on which to make sound decisions.

¹⁸ Ibid.

- A community-led, integrated strategy is developed with Department of Conservation, other relevant agencies and fisheries stakeholders to effectively manage land, water, mahinga kai, and the biodiversity of Te Tai ō Marokura.
- Communication and collaboration is promoted between those groups with an interest in the management of the coast and sea.

Some issues identified in the Te Tai ō Marokura environmental management plan are similar to those identified by Te Korowai. Accordingly, Te Rūnanga members believe that Te Korowai may assist them in finding and implementing management solutions.

6.3 Issues

In 1986 the Ministry of Fisheries introduced the Fisheries Quota Management System (QMS) as the means by which New Zealand would sustainably manage fisheries resources. In doing so, the Crown established commercial property rights to fisheries resources in the form of quota - individuals or companies were allocated the right to catch certain quantities of particular species.

Because traditional food gathering did not involve recording a catch history, the Quota Management System disqualified almost all Māori from the new system. Unable to provide detailed catch records and raise bank loans, most Māori fishers were driven out of the industry.

Dissatisfied, Ngāi Tahu claimed to the High Court and the Waitangi Tribunal that the Quota Management System was a breach of the Treaty because it gave property rights customarily owned by tāngata whenua to commercial fishers in the form of quota.

The High Court found that: ‘by implementing the Quota Management System the Crown had committed a fundamental breach of the Treaty of Waitangi by giving non-Māori a right which belonged to Māori and had not been acquired by the Crown.’

The Waitangi Tribunal found that the Crown as Treaty partner failed to protect mahinga kai.¹⁹

The Waitangi Tribunal also found that Ngāi Tahu held an exclusive Treaty right to the sea fisheries surrounding the whole of their rohe out to a distance of about 12 nautical miles, there being no waiver or agreement by them to surrender that right.²⁰

The Minister was required to promulgate regulations that recognised and provided for the customary fishing rights of tāngata whenua as guaranteed by the Treaty of Waitangi, and that provided tāngata whenua with the opportunity to manage their rights once more. The South Island customary fishing regulations were first disseminated in April 1998 under section 186 of the Fisheries Act 1996.

The regulations provide a process for tāngata whenua to appoint tāngata tiaki/kaitiaki (customary fisheries managers) to manage customary food gathering (by issuing fishing

¹⁹ Ibid.

²⁰ Waitangi Tribunal (1992).

authorisations) and provide a framework for tāngata whenua to contribute to fisheries management.

The customary regulations apply when tāngata whenua wish to exceed bag limits or other provisions of the amateur fishing regulations for reasons such as hui, tangi, koha or whānau sustenance. To exercise their customary fishing rights, now administered under the customary regulations, Ngāti Kurī must obtain authorisation from one of their tāngata tiaki or kaitiaki.

Tāngata tiaki or kaitiaki were first appointed for Te Rūnanga o Kaikōura in 2000.

The customary authorisations issued for this area since 2000 are primarily for near-inshore fisheries (in particular, shellfish such as pāua, kina and kōura). The main finfish fished under customary authorisation are rāwaru (blue cod) and hāpuku (groper).

There is a clear trend in the purposes for which authorisations are issued - most are for hui and tangihanga (funerals). Catch levels are currently extremely low - less than 1-2 tonnes per year for most key species.

Customary harvesting occurs throughout the entire area managed by the tāngata tiaki or kaitiaki, but key spots tend to be used, including:²¹

- Waipapa Bay
- Half Moon Bay
- Rakautara
- Mangamaunu
- Kaikōura Peninsula (in particular Sharks Tooth, South Bay)
- Kahutara
- Barney's Rock
- Goose Bay
- Oaro
- Haumuri Bluffs.²²

Traditional use of marine and coastal areas by Ngāti Kurī families has continued with little change through to modern times. Each family has its own mahinga kai for fishing and gathering kaimoana. Family connections to particular areas are well known and respected by other families. It is particularly important that this system works, as it often happens, due to economic circumstances, that a family must 'live off the beach'.

There are no tools in place over the many fisheries of significance for customary food gathering to allow Ngāti Kurī to utilise their traditional knowledge (mātauranga) and customs (tikanga) to protect these areas.

There are no mātaimai or taiāpure established over the fisheries of significance for customary fishing in the Ngāti Kurī area - only a 186B temporary closure over

²¹ Te Rūnanga o Ngāi Tahu (2006).

²² Areas outside the scope of the Te Korowai o Te Tai o Marokura strategy have not been included.

Waiōpuka Reef on Kaikōura Peninsula. This temporary prohibition has been renewed three times and will expire in August 2012.

The Fisheries Act 1996 and the South Island Customary Fishing Regulations provide a number of legal tools to help tāngata whenua manage customary fishing areas. There are three main tools.

Taiāpure (local fisheries)

A taiāpure identifies an area (of estuarine or coastal waters) that has special significance to an iwi or hapū as a source of food or for spiritual or cultural reasons. The object of acknowledging taiāpure is to make better provision for recognising rangatiratanga (chiefly authority) and the fisheries rights secured under Article II of the Treaty of Waitangi. The provisions for taiāpure are contained in Part IX of the Fisheries Act 1996.

A management committee, nominated by the tāngata whenua (which will include representatives from local fisheries stakeholder groups, including commercial fishers) is appointed by the Minister of Fisheries. The role of the committee is to recommend regulations that allow taiāpure to function according to custom.

The regulations may relate to:

1. The species of fish, aquatic life or seaweed that may be taken.
2. The quantity of each species that may be taken.
3. The dates or seasons that each species may be taken.
4. Size limits relating to each species that may be taken.
5. The method by which each species may be take.
6. The area or areas in which each species may be taken.

The effect of the taiāpure on local fisheries and the people using them will depend on the controls that are established as part of the regulations.

A mātaimai reserve identifies a customary food-gathering site and allows for its management by tāngata whenua (South Island Customary Fishing Regulations 1998). A reserve can be established in any area of New Zealand Fisheries waters in the South Island. Tāngata whenua appoint tāngata tiaki to manage mātaimai, which they do by making bylaws. These must be approved by the Minister of Fisheries, and must apply generally to all individuals. Commercial fishing is prohibited in a mātaimai reserve unless otherwise authorised by the Minister of Fisheries.

Temporary closure and method restriction provisions (section 186b of the Fisheries Act 1996) allow for fishing to cease or be restricted in New Zealand Fisheries waters of the South Island. The purpose of a rāhui (restriction) is to improve the size and/or availability of fish stocks, or to recognise their use and management by tāngata whenua. A rāhui can be applied for particular days, weeks, months or seasons up to a period not exceeding two years (the rāhui can be renewed at the end of each period, however). Rāhui apply to all individuals, including customary fishers.

The Waiopuka closure

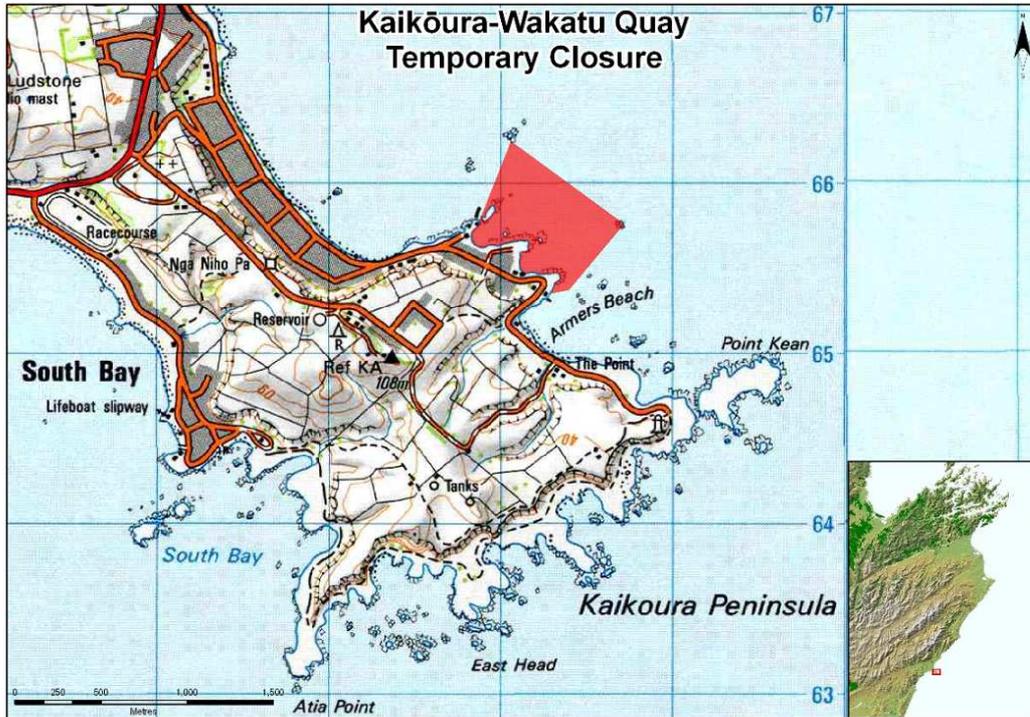


Figure 22 - Kaikōura -Wakatu temporary closure

A section 186b temporary closure was first placed on the Waiōpuka reef area of the Kaikōura Peninsula in August 2002 (Figure 22) as a form of rāhui. It was proposed by Te Rūnanga o Kaikōura and the Kaikōura Marine and Coastal Protection Society on the grounds that the combined pressure from recreational, commercial and customary harvesters was depleting fish stocks. This rāhui has been renewed three times and will remain in place until 17 August 2012²³.

²³ Fisheries (Kaikōura-Wakatu Quay Temporary Closure) Notice 2010

6.4 Solutions

To support customary fishing practices Te Korowai will assist in the following actions. Voluntary approaches will be tried first and will be supported with legally enforceable rules as necessary:

6.4.1 Tāngata whenua management of key food baskets

The goal of Te Korowai is to support tāngata whenua gaining direct control of their most important food gathering places

The key solution is Mātaitai managed by tāngata whenua. These would be in the sea at Mussel Rock (Te Waha o te Marangai) (Figure 23), Mangamaunu (figure 24), and Oaro (Figure 25) and in the lower reaches of the Oaro, Kahutara, and Tutaepuaputa (Conway) Rivers (see Figure 2), as the traditional food gathering places of the local iwi and hapu (closed to commercial fishing, open to recreational fishing under mātaitai rules).



Figure 23 - Proposed Te Waha o te Marangai mātaitai at Mussel Rock

Although the whole coast was used by tāngata whenua direct management is being sought only of the continuously used sites associated with areas of traditional occupation and key institutions such as marae. Te Waha o te Marangai (Mussel Rock) is a site just north of Mangamaunu and is used together with the reefs at Mangamaunu to gather food for the Mangamaunu marae and its community. The areas selected are small and their boundaries have been carefully talked through with commercial fishers, who are the one group excluded the moment the mātaimai is formed.



Figure 24 - Proposed mātaimai at Mangamaunu

Oaro is a traditional occupation area and the mātaimai there would occupy only the area immediately in front of the land still held by tāngata whenua there and required for the immediate needs of the community.

Te Korowai is pleased to support these initiatives and acknowledges the gifts of Ngāti Kurī in seeking only modest areas and of commercial paua and rock lobster fishers whose representatives have accepted the potential exclusion of their members from these areas.

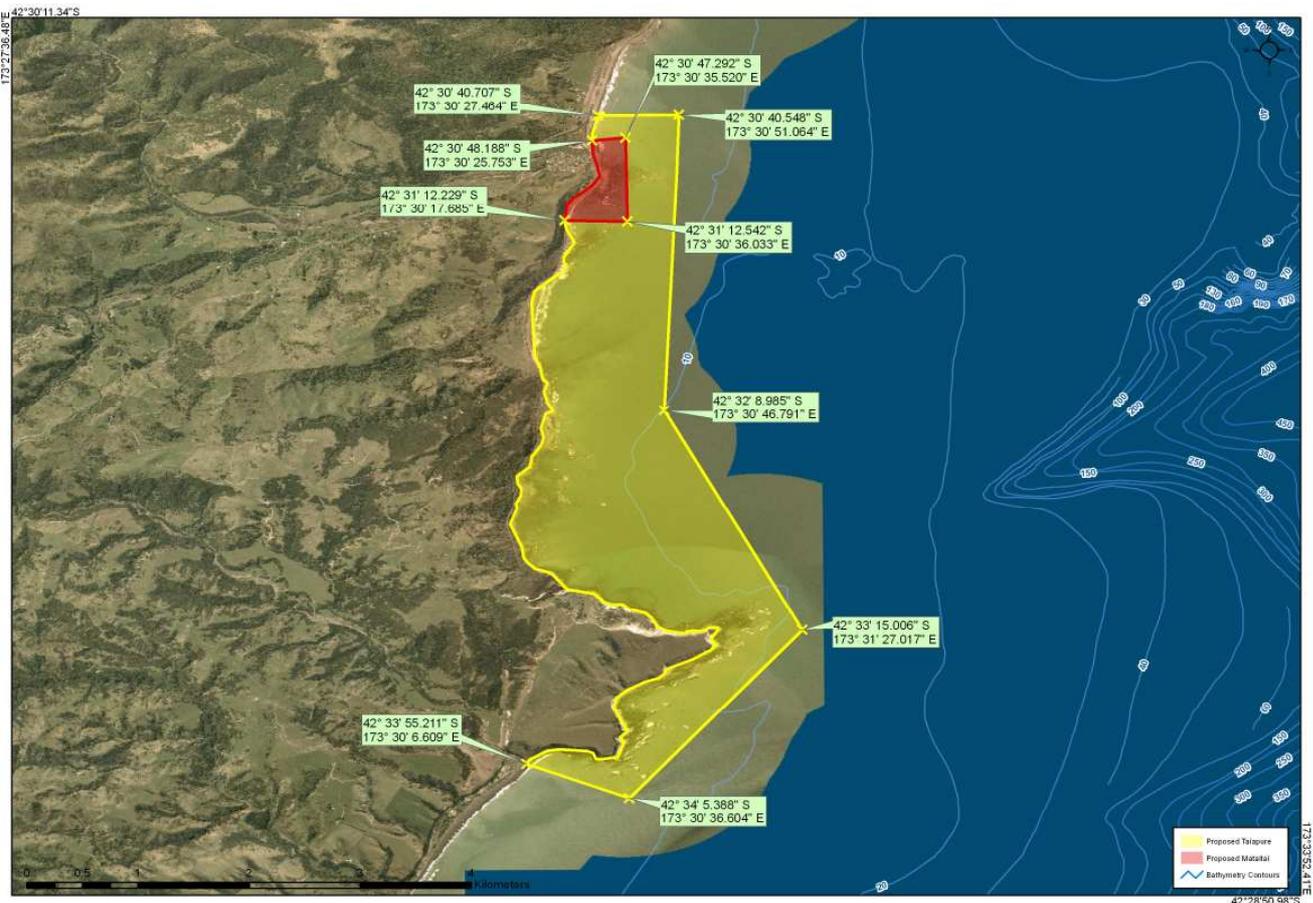


Figure 25 - Proposed mātaimai and taiāpure at Oaro/Haumuri

6.4.2 Local control of traditional fishing areas

The goal of Te Korowai is to support tāngata whenua leading local management of fisheries associated with key traditional occupation sites.

The key solution is a taiāpure around the Kaikōura Peninsula (Figure 26), and at Oaro Blocks/Haumuri (Figure 25) managed by locals with equal representation of tāngata whenua and other local interests (open to all under taiāpure rules).

Ngāti Kurī is committed to involvement of local community representatives in management of the taiāpure. The hapu has also committed to ensuring that the Kaikōura Peninsula taiāpure will contain one or more rāhui in which all fishing will be excluded for a substantial period of time (see section 4.4.3 above). This rāhui would be formed by the regulations for the taiāpure replace the current rāhui area described above which is a temporary closure. The new area(s) might include the current area, areas earlier considered for a marine reserve, or might be some other part of the Peninsula agreed by the management committee.

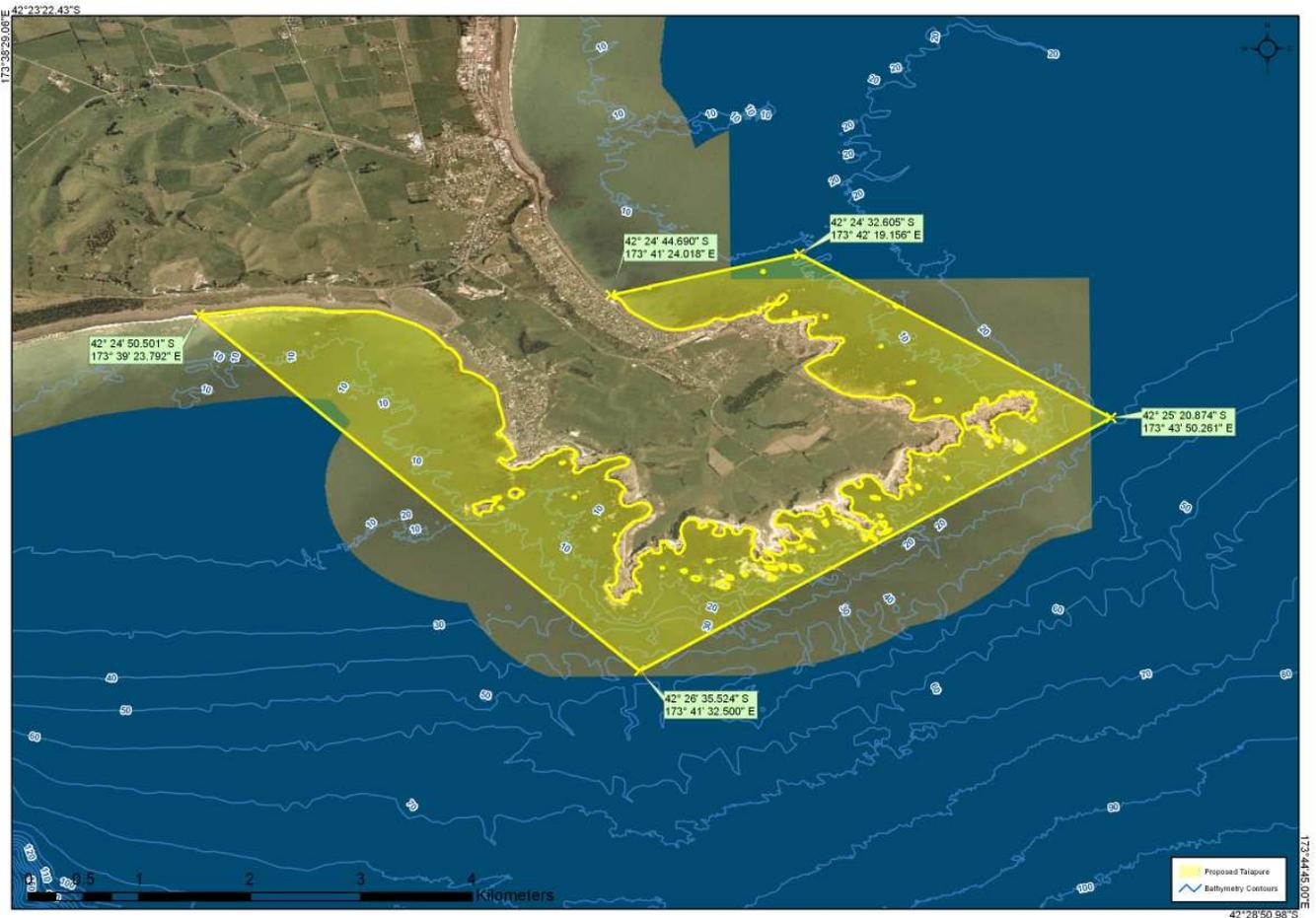


Figure 26 - Proposed taiāpure at Kaikōura Peninsula

6.4.3 Public awareness and acceptance of traditional methods

The goal of Te Korowai is that the general public accepts and supports the use of traditional fishing practices and management methods in all parts of Te Tai ō Marokura and respects the rules of special areas.

The key solution is an education programme for the general public on customary rights and area management tools such as mātaimai and taiāpure.

Education is needed so that more recent settlers understand and accept the activities of tāngata tiaki in licensing and recording customary harvesting that occurs throughout the entire area and the special rules that will apply in each mātaimai and taiāpure. This will also assist in acceptance of practices more common traditionally, such as maximum size limits and seasonally harvested areas, that would enhance management across the area.

6.4.4 Monitoring and adaptive management

The goal of Te Korowai is that management of mātaimai and taiāpure is effective.

The key solution is scientific baseline surveys and ongoing monitoring of newly established mātaimai or taiāpure to assist reserve managers with restoring these fisheries.

Traditional fisheries management is adaptive and knowledge based. Management of mātaimai and taiāpure will work best if it effectively combines modern science with traditional knowledge. Te Korowai will support the management committees in securing assistance to complete baseline assessments of newly designated areas and to undertake ongoing monitoring.

6.5 Summary of gifts and gains for sustaining customary practices

Gifts of sustaining customary practices:

- Tāngata whenua seek control only over the most important areas even though their use of the whole coast is well documented.
- Commercial fishers forgo taking from the mātaimai areas.
- All fishers accept tāngata whenua leadership in taiāpure areas.
- Tāngata whenua offer shared management of taiāpure.

Gains of sustaining customary practices:

- Recognition of mana moana by tāngata whenua.
- Key food baskets protected for the future.
- Customary management practices sustained and made available for others.



Part C

Implementation

7. Engaging Understanding
8. Governance
9. Compliance with the Strategy
10. Monitoring Performance of the Strategy



Seagull checking the rules - Lynda Kitchingham

7. Engaging Understanding

7.1 Objective

The objective of Te Korowai is to move the whole community into consciously caring for Te Tai ō Marokura.

7.2 Background

Engaging people's understanding is fundamental to achieving sustained change in the way people interact with their environment. Understanding means having access to information, experiences and ways of thinking that allow people to understand the value of Te Tai ō Marokura and the consequences of their actions and the actions of others.

In compiling their Characterisation report, Te Korowai has found that there is an enormous body of information about Te Tai ō Marokura. Much of this information is hard to access and much is not documented or securely archived. Te Korowai can play a key role in coordinating efforts to understand Te Tai ō Marokura and in making this available to local people, visitors and decision makers.

At the same time there are many agencies and organisations charged with responsibility for providing information about Te Tai ō Marokura. Te Korowai can help to ensure that Kaikōura gets its share of national, regional and local resources in caring for an internationally significant environment.

7.3 Issues

We want to increase understanding of Te Tai ō Marokura in a way that encourages and allows people to care for the place properly.

Five core issues are:

- How to sustain traditional and local knowledge.
- How to grow new knowledge through research and monitoring.
- How to have more people experience the wonders of Te Tai ō Marokura in a way that leads them to value it.
- How to grow understanding in the people of Kaikōura.
- How to inform visitors to Te Tai ō Marokura.

7.3.1 *Traditional and local knowledge*

People in Kaikōura have over 700 years of experience with their local marine environment. Ngātī Kurī intermarried with earlier tribes that lived here, and carried much of their knowledge forward. Similarly, early Europeans drew on the knowledge of local Māori as they explored and drew on the resources of the sea here. At the same time much knowledge has been lost. It is now hard to document accurately the abundance of fish or marine mammals experienced in the past, and this fuels disagreement about how to manage our interaction with these resources and what we can expect in the future.

Traditional and local knowledge has value and its own systems and tikanga for sharing and protection. It is not entrusted easily and some information is not for sharing with the wider community. Few fishers want to tell everyone where their favourite fishing hole is located and tāngata whenua would seldom reveal the exact location of sacred sites that might be plundered for artefacts.

At the same time sustaining local and traditional knowledge and documenting it is vital to becoming effective kaitiaki for our marine environment. Only in this way can we:

- Avoid repeating the mistakes of the past.
- See clearly past the “recent settler syndrome” where each new immigrant takes the current state as the natural one.
- Properly respect the established cultures and tikanga of the tāngata whenua and local residents.

Te Korowai has made a start by recording as much local knowledge and history in their Characterisation Report. There is much more knowledge than that available, however, and much of it can be lost with the passing of knowledge holders.

7.3.2 *Research and monitoring*

Te Tai ō Marokura is the subject of considerable research and monitoring by a wide range of organisations and individuals. This information is vital to the wise management of the marine environment. Only a small portion of this information is available to Te Korowai and even less to the general public. Much information is technical in nature and not readily understood by lay people. Some information has commercial value and is held closely by industry groups. On the other hand, there are information gaps about activities and resources important to people caring for the coast.

Research about the marine environment of Kaikōura is undertaken by:

- University of Canterbury.
- Lincoln University.
- University of Otago.
- Massey University.
- National Institute of Water and Atmospheric Research.
- Department of Conservation.
- Ministry of Fisheries.
- Texas A&M University.
- New Zealand Whale and Dolphin trust.
- And many others.

An example of the publications from University of Canterbury:²⁴

Publications of the University of Canterbury Edward Percival Field Station

- Annual Reports of the Edward Percival Field Station 1974 - 2002
- Research Activities at the George Knox Research Laboratory 2002
- Research Activities at the George Knox Research Laboratory 2004
- Research Activities at the George Knox Research Laboratory 2005
- Research Activities at the George Knox Research Laboratory 2006
- Research Activities at the George Knox Research Laboratory 2007
- Research Activities at the George Knox Research Laboratory 2008
- Research Activities at the George Knox Research Laboratory 2009
- The Kaikōura Region; A Bibliography
- Index to the Collected Marine Reprints of the Edward Percival Field Station 1951-1998

Monitoring data is collected by:

- Ministry of Fisheries.
- CRAMAC5.
- Paua3.
- Commercial fin fishers.
- Department of Conservation.
- Kaikōura District Council.
- Environment Canterbury.
- Marine mammal tourism operators.
- Resource Management Act consent holders.
- Royal Forest and Bird Protection Society.
- Ornithological Society.
- Ministry of Agriculture and Forestry Biosecurity New Zealand.
- Ministry of Health.
- Ngātī Kurī.
- And many others.

²⁴ Note that each publication in the box refers to a number of original papers.

Below is an example of the data generated by Dolphin Encounters:

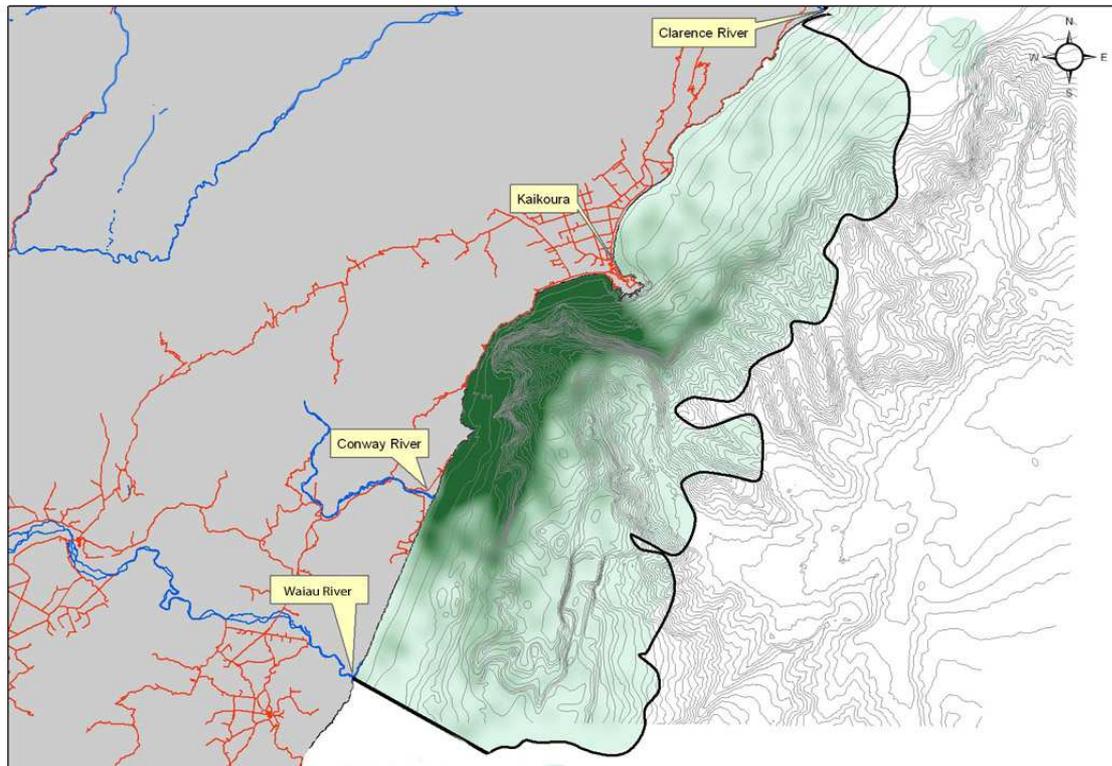


Figure 27 Daytime Dusky dolphin distribution based on tourism encounters
(Source Dolphin Encounters Ltd)

Monitoring data is held in a wide range of places and tends to be less accessible than research where there is a greater pressure for publication.

7.3.3 *People's experience*

Direct experience of the Kaikōura environment shapes people's attitude to this environment. Research suggests that experiences early in life in the context of family activities are particularly important in shaping life long values about the natural environment²⁵. Increasing opportunities for positive and well informed interactions for Kaikōura people, as well as visitors, can lay the foundations for lasting behaviour changes. New technologies such as the Whale Watch video and live feeds from underwater cameras can give people insight to the world under the water. Marine tourism operators are a key way that visitors can have an enhanced experience of Te

²⁵ Greg Place – *Does interaction with the environment during the camping experience influence environmental attitudes?* Chicago State University; Anja Kollmuss; Julian Agyeman *Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior?* *Environmental Education Research*, Volume 8, Issue 3 August 2002 , pages 239 - 260

Tai ō Marokura, and the messages they provide about the environment and environmental issues are critical.

7.3.4 Kaikōura People

Adoption by the people of Kaikōura of their role as kaitiaki for Te Tai ō Marokura is central to the success of this strategy. The children of Kaikōura are the future holders of this role and reaching them through the formal education system is a key opportunity.

Education Kaikōura Strategic Plan (November 2008)

People report seeing huge opportunities for world leading environmental education in Kaikōura. They talk of the potential for Kaikōura to be the place for marine environmental education in New Zealand. Unique elements are already present, and people want to make connections between science, landscape, visitors and a deep respect for traditional knowledge. Schools in Kaikōura are already doing amazing things and seek to broaden this into a coherent programme, coordinated from early childhood to adult learning.

Each of the elements of the formal education system already has marine components, but the parts are not talking to each other, and there is opportunity for Te Korowai to support further development.

With the adult community of Kaikōura it is practical to directly reach those organised into interest groups, such as fishing clubs. A greater challenge is to reach that broad group of Kaikōura people who just live in their environment and interact with Te Tai ō Marokura.

7.3.5 Informing visitors

Kaikōura is a major visitor destination. Information provided to visitors will affect the way they value Te Tai ō Marokura, how they behave and how they support Te Korowai to protect the environment.

Visitors receive their information from many sources: the internet, brochures and publications, from friends, accommodation providers, information centres, local residents, and from tourism service providers.

The challenge for Te Korowai is to infuse all of these sources with up to date information that builds recognition of Te Tai ō Marokura, passion for its protection and informed understanding of how to treat it with respect.

7.4 Solutions

To achieve its objective of moving the whole community into consciously caring for Te Tai ō Marokura, Te Korowai will work to increase the quality, quantity and accessibility of information on this environment.

Te Korowai is committed to learning and adapting its actions based on new knowledge and understanding as it emerges. Already, the more we find out about the marine environment of Kaikōura, the more we realise there is to learn.

Knowledge is rarely something fixed. In the vast majority of cases, the more we know about anything, the more we know we don't know about it; and the deeper the relationships we see to other things. Many of the things we once thought of as fixed, we now know to be temporary states in cycles and processes that can cover tens, hundreds, thousands or millions of years.

This process of learning about, and becoming involved in, something, then making new abstractions and intuitions about how that "thing" is related both within itself, and to other "stuff"; seems to be an infinite process (a cyclic process without end). Each of us can be part of this process of becoming aware of, and/or creating new knowledge, by engaging our intention and awareness.

However, action is needed now on many issues and we have to work within the limits of our knowledge even as we learn. Our approach is to engage in:

- Investment in new knowledge.
- Effort in developing and spreading collective understanding.
- Time for reflection and learning.
- Commitment to apply new knowledge and to change methods if required.
- Openness to finding our actions did something other than we expected.
- Revision of our approach as things change.

7.4.1 Sustaining traditional and local knowledge

The goal of Te Korowai is that local knowledge is secured for future use and is readily available to the community.

The solution is to sustain traditional and local knowledge by:

- Encouraging historic research, including collection and archiving of oral histories.
- Disseminating this information into the community including supporting the teaching of traditional knowledge in schools.
- Creating “living documents” of its reports and regularly updating the Te Korowai website with supplements and new information and encouraging historic research display at the Information Centre.

7.4.2 Growing new knowledge

The goal of Te Korowai is to encourage research and monitoring of Te Tai ō Marokura.

The solution is to grow new knowledge on Te Tai ō Marokura through research and monitoring.

This will be done by:

- Forming a specific strategy of our needs for research and monitoring.
- Mapping and recording past and current research and monitoring including working with the University of Canterbury's Edward Percival Marine Lab to develop a register of past and current research and monitoring on Te Tai ō Marokura, recording who is doing what and where the information is held.
- Growing the stream of funding for research and monitoring on Te Tai ō Marokura targeting the gaps identified in our research and monitoring strategy.
- Maintaining a list of researchers and monitoring workers, e.g. British volunteers, National Outdoor Leadership School, etc. and create opportunities for them to work in Te Tai ō Marokura (e.g. Te Korowai holidays where people come and pay to do monitoring work or engaging research via universities, post graduate studies).

7.4.3 Informing people

The goal of Te Korowai is that people are aware of the values of Te Tai ō Marokura and supportive of its management.

The solution is to inform people with a package of information resources utilising the latest technology available.

To inform our visitors and enhance experiences of Te Tai ō Marokura, Te Korowai will work with partners to develop a cutting edge package of information resources including:

- Partnering with others to develop a suite of integrated resources exploring the application of new technology together with traditional print media and interpretive signs.
- Linking in with all local tourism and business operators.
- Exploring partnerships with national tourism bodies such as airlines.



Restoring Wairipo Lagoon - Barry Dunnett

7.4.4 Marine education

The goal of Te Korowai is to bring understanding of Te Tai ō Marokura into mainstream education processes.

The solution is for Te Korowai to support and champion marine education, connecting with education providers and coordinating and encouraging the production of public information with consistent core messages.

This will include:

- Liaison with tertiary educational institutions agencies, particularly universities.
- Growing buy-in from teachers.

7.4.5 Direct engagement

The goal of Te Korowai is to ensure that key stakeholder groups share in kaitiakitanga.

The solution is to directly engage with key groups to grow a sense of ownership and kaitiakitanga.

Te Korowai will sustain direct engagement with key groups to grow a sense of ownership and kaitiakitanga. These will include connecting with.

- Tāngata whenua.
- Management agencies including Kaikōura District Council, Environment Canterbury, Department of Conservation, Ministry of Fisheries, Ministry for the Environment.

And connecting locally, regionally and nationally with:

- Commercial fishing interests and collectives.
- Fishing and diving clubs.
- Researchers.
- Environmental groups.
- Tourism interests.



Visitors on the Peninsula - Dennis Buurman Photography

8. Governance

Objective: Effective steps to implement the plan.

Te Tai ō Marokura, the Kaikōura marine environment, is a functioning ecosystem where the whole is far more than the sum of the parts. Similarly this Strategy is an integrated whole, reflecting the six years of research and discussion by Te Korowai. Each part of the Strategy is important and each of the proposed tools works with the others to give a multiplying effect.

Implementing the Strategy will involve a mix of legal mechanisms, ongoing active engagement in management and advocacy activity, and generating the community awareness and ownership needed across generations.

Te Korowai will work with national, regional and local government to ensure that legal rights and obligations match local priorities in caring for Te Tai ō Marokura.

Implementing the Strategy may require special legislation because an integrated package would provide the best results for the marine environment. Special legislation also gives the opportunity to embed statutory recognition of Te Korowai in all subsequent legal processes. The world will not stand still and to be effective kaitiaki, the voice of Te Korowai will need to be heard by those with authority over marine management for generations to come.



Te Korowai finalises the proposed Strategy - Richard Craig

Statutory functions for Te Korowai might include:

- Advising management agencies and Ministers who exercise functions under the Biosecurity Act 1993, Environment Act 1986, Fisheries Act 1996, Marine Reserves Act 1971, Resource Management Act 1991, Marine Mammals Protection Act 1978, Wildlife Act 1953, and the Marine and Coastal Areas Act 2011, including on:
 - The effectiveness of management measures in the Te Tai ō Marokura marine area.
 - Activities occurring outside the Te Tai ō Marokura marine area if those activities impact, or are likely to impact, on the Te Tai ō Marokura marine area.
 - Likely threats to the Te Tai ō Marokura marine area.
- Facilitating and promoting the integrated management of the Te Tai ō Marokura marine area.
- Obtaining, sharing, and monitoring information on the state of the Te Tai ō Marokura marine area.
- Assisting management agencies to:
 - Prepare and disseminate information about Te Tai ō Marokura, including educational information.
 - Monitor the state of the marine environment and biological diversity in the Te Tai ō Marokura marine area.
 - Plan for the enforcement of, and compliance with, the management of the Te Tai ō Marokura marine area.
- To conduct reviews.
- To perform any other functions given to them under any legislation.

Te Korowai will need ongoing funding to sustain its role and its work. To date funding has come from the Department of Conservation, Kaikōura District Council, Environment Canterbury and the Canterbury Community Trust.

Ngāti Kurī has recognised the ongoing leadership by Te Korowai and has affirmed its role in protecting Te Tai ō Marokura. They want the whole community to take on the role of kaitiaki for its marine environment. This will require ongoing leadership. Te Korowai will need to nurture the next generation of kaitiaki to take their place.



Dennis Burman Photography

9. Compliance with the Strategy

Objective: Legal rights and obligations and local customs and codes of practice are respected and complied with.

Achieving compliance with the outcomes of the Strategy will involve developing a culture and social expectation that support the intentions of Te Korowai. Implementation will also require enforcement where legal rights and obligations are transgressed. Social pressure and education are the pathways to having local customs and codes of practice respected and complied with.

In areas where there are local codes of practice, Te Korowai will endorse and brand companies that commit to complying with the code. An example would be a code of practice for charter fishing operators that committed to quality experiences for visitors while not adversely affecting the abundance and productivity of fish locally (see section 3.4.3).

Ongoing legal enforcement will require a presence by the Ministry of Fisheries, Department of Conservation, Kaikōura District Council and Environment Canterbury. Te Korowai will lobby Government and Councils to keep these resources available and support enforcement in all ways practical.



10. Monitoring performance of the Strategy

Objective: The Strategy remains up-to-date and implementation is adapted over time.

Te Korowai suggests that the Strategy should be reviewed every ten years in an open process that involves opportunities for the whole community to influence future directions. Te Korowai will seek comment in advance of the review and test proposals publicly before setting any new direction.

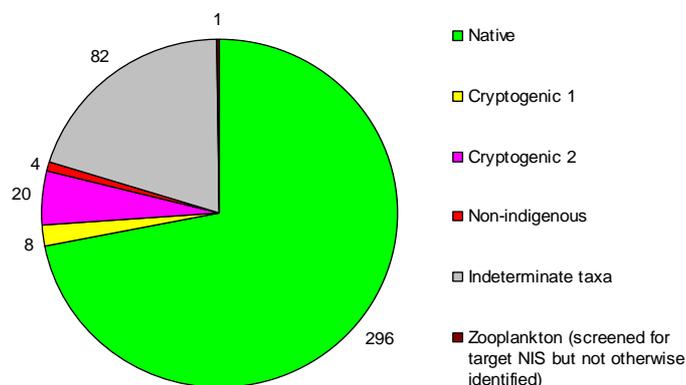
All protection mechanisms will be reviewed for effectiveness according to the best available knowledge at least every 25 years. These will include marine mammal sanctuaries, marine reserves, taiāpure, mātaimai, and recreational fishing limits. World Heritage status is a matter of international conventions and, once in place, it would be beyond the powers of Te Korowai to initiate a review.

The key indicators for this strategy will be based on assessing:

- Progress with implementing each of the actions in the Summary.
- Changes in numbers of key indicator species inside and outside marine reserves, marine mammal sanctuaries, rāhui, taiāpure and mātaimai.

Te Korowai Annual report will include an assessment of every action listed in the Summary of the Strategy.

Te Korowai will work with the Kaikōura District Council, Department of Conservation, Ministry of Fisheries, Environment Canterbury, MAF Biosecurity and research providers in developing and implementing an integrated monitoring programme across all special areas and the general environment of Te Tai ō Marokura.



Biosecurity status of marine species collected from the Kaikōura port survey - MAF Biosecurity

11. Glossary

ACE - Annual Catch Entitlement is the catching right generated each year from quota. At any stage during the fishing year a person is able to sell their ACE.

Benthic - of the seafloor.

Biomass - is the mass of living biological organisms in a given area or ecosystem at a given time.

Detrital - of accumulated material made up of small fragments.

Hapū - a "sub-tribe", or "clan" is sometimes described as "the basic political unit within Māori society."

Hīkoi - journey.

Infaunal - Aquatic animals that live in the substrate of a body of water, especially in a soft sea bottom.

Iwi - or tribes form the largest everyday social units in Māori culture.

Kaimoana - seafood.

Kaitāngata - the eating of those defeated in battle.

Kaitiaki - guardians.

Kaitiakitanga - the role of guardianship.

Kekeno - seals.

Ki Uta Ki Tai - mountains to the sea.

Koura - rock lobster.

Macroalga - are the larger algae such as seaweeds

Mahinga kai - refers to customary gathering of food, the practices involved, the places where food is gathered, and the resources themselves.

Marine mammal sanctuaries - Marine mammal sanctuaries can be established under the Marine Mammals Protection Act throughout New Zealand fisheries waters to create a permanent refuge for marine mammals.

Marine reserves - Marine reserves are specified areas of the sea and foreshore that are managed to preserve them in their natural state as the habitat of marine life for scientific study.

Mātaitai - A mātaitai reserve identifies a customary food-gathering site and allows for its management by tāngata whenua (South Island Customary Fishing Regulations 1998).

Mātauranga - traditional knowledge.

Megabenthic invertebrates - visible marine invertebrate organisms of the sea floor usually more than 10mm high.

MinFish/MFish - Ministry of Fisheries.

Moana - the sea.

Ngā uri o Tangaroa - seafood.

Pā - can refer to any Māori village or settlement, but in traditional use it referred to hillforts fortified with palisades and defensive terraces and also to fortified villages.

Pākehā - is a Māori term for New Zealanders who are not of Māori blood lines.

Parāoa - whales.

Rāhui - areas temporarily closed to fishing for customary reasons. These can be traditional, having no legal but a strong moral basis, or may be recognised under the Fisheries Act S186B or S297.

Rangatiratanga - the exercise of chiefly authority.

Submarine canyon - is a steep-sided valley on the sea floor of the continental slope.

Tāngata tiaki - are individuals who can authorise customary fishing within their rohe moana, in accordance with tikanga Māori.

Taiāpure - A taiāpure identifies an area (of estuarine or coastal waters) that has special significance to an iwi or hapū as a source of food or for spiritual or cultural reasons.

Takiwā - district.

Tangaroa - Māori God of the sea.

Tāonga - treasured resources.

Tāngata whenua - people of the land used here as the hapu Ngāti Kurī who hold manawhenua manamoana over the area covered by Te Korowai.

Te Papa - the national museum on New Zealand.

Te Tai o Marokura - the seas around Kaikōura.

Tikanga - customary ways of doing things.

TAC - Total Allowable Catch which is the total amount of fish that may be taken from a stock while maintaining the maximum sustainable yield. From the TAC an allowance is made to provide for recreational fishing, customary uses and all other fishing-related mortality of that stock. The remainder is available to the commercial sector as the Total Allowable Commercial Catch (TACC). This is the total quantity of each fish stock that the commercial fishing industry can catch for that year.

TRONT - Te Rūnanga o Ngāi Tahu.

Tūpuna - ancestors.

Tutumairekurai - Hector's dolphin.

Urupā - burial place.

Wāhi tapu - sacred place.

Whānau - extended family.

Whānui - collection of extended families.

World Heritage - World Heritage is the designation for places on Earth that are of outstanding universal value to humanity and as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy.



Dennis Burman Photography