

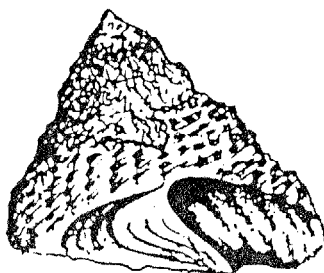
Akaroa Marine Reserve  
Banks Peninsula

Application

by

The Akaroa Harbour  
Marine Protection Society Incorporated  
P O Box 56  
Duvauchelle  
Banks Peninsula

January 1996



# Preface

It gives me great pleasure to introduce this Formal Application proposing the establishment of the 530 hectare Akaroa Marine Reserve.

I fully support the concept of the Akaroa Marine Reserve. I am aware of the lengthy discussion that has taken place between interested parties to progress the matter to this stage. I applaud it as a sensible compromise between the parties with varied interests.

Marine conservation is vital to the health of our environment, and is often overlooked in favour of more obvious land based areas. The existence of Conservation land covering 28% of our land mass contrasts sharply with our record of marine reserves covering less than 1% of our coastline. Although the marine fauna and flora are beneath the sea, that is not a reason for ignoring the environmental threats.

I urge every person interested in this proposal to read the Document. The statutory process outlined in this Document includes the opportunity for people to oppose or support the proposal. The Akaroa Harbour Marine Protection Society, as the applicant, will welcome your involvement.

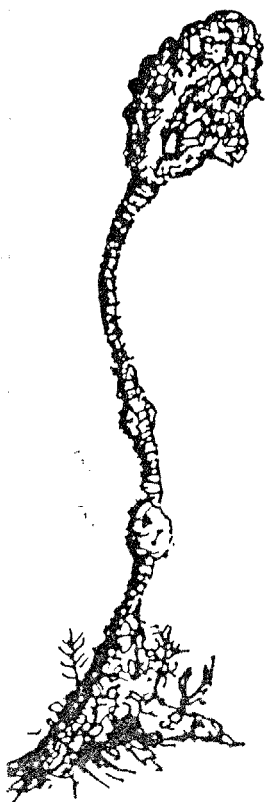


**David Carter**  
MP for Selwyn

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# 1 Introduction

## 1.1 Application for a Marine Reserve

This document is an application by the Akaroa Harbour Marine Protection Society Incorporated (AHMPS) for a marine reserve in the south eastern area of Akaroa Harbour to Gateway Point, on Banks Peninsula. It provides details of the proposal including the background to the application, and an assessment of the impacts a marine reserve may have on existing and future users.

Under the Marine Reserves Act 1971 (the Act) a public notice is required to be inserted in local and national newspapers advising the AHMPS's intention to apply for an Order-in-Council to establish the marine reserve. A copy of this notice is included as Appendix 1. This document provides information in support of the application. The application does not contain any proposal for recreational fishing; all fishing in the marine reserve would be prohibited unless authorised for scientific purposes.

### ***The establishment of a marine reserve permits:***

- Public access, as it is important that people of all ages can study and observe marine life in its natural habitat.
- Both navigation and anchoring where they will not harm marine life.

### ***Some activities are not permitted, including:***

- Commercial fishing
- Recreational fishing unless it has been specifically provided for as a condition attached to the Order-in-Council establishing the reserve or in terms of S.3(3) of the Marine Reserves Act.
- Discharges of any toxic or polluting substance.
- The erection of buildings or other structures unless permitted by the Director General of Conservation.
- The use of firearms or explosives within or by shooting into a marine reserve.

## 1.2 Marine Reserves and the Department of Conservation

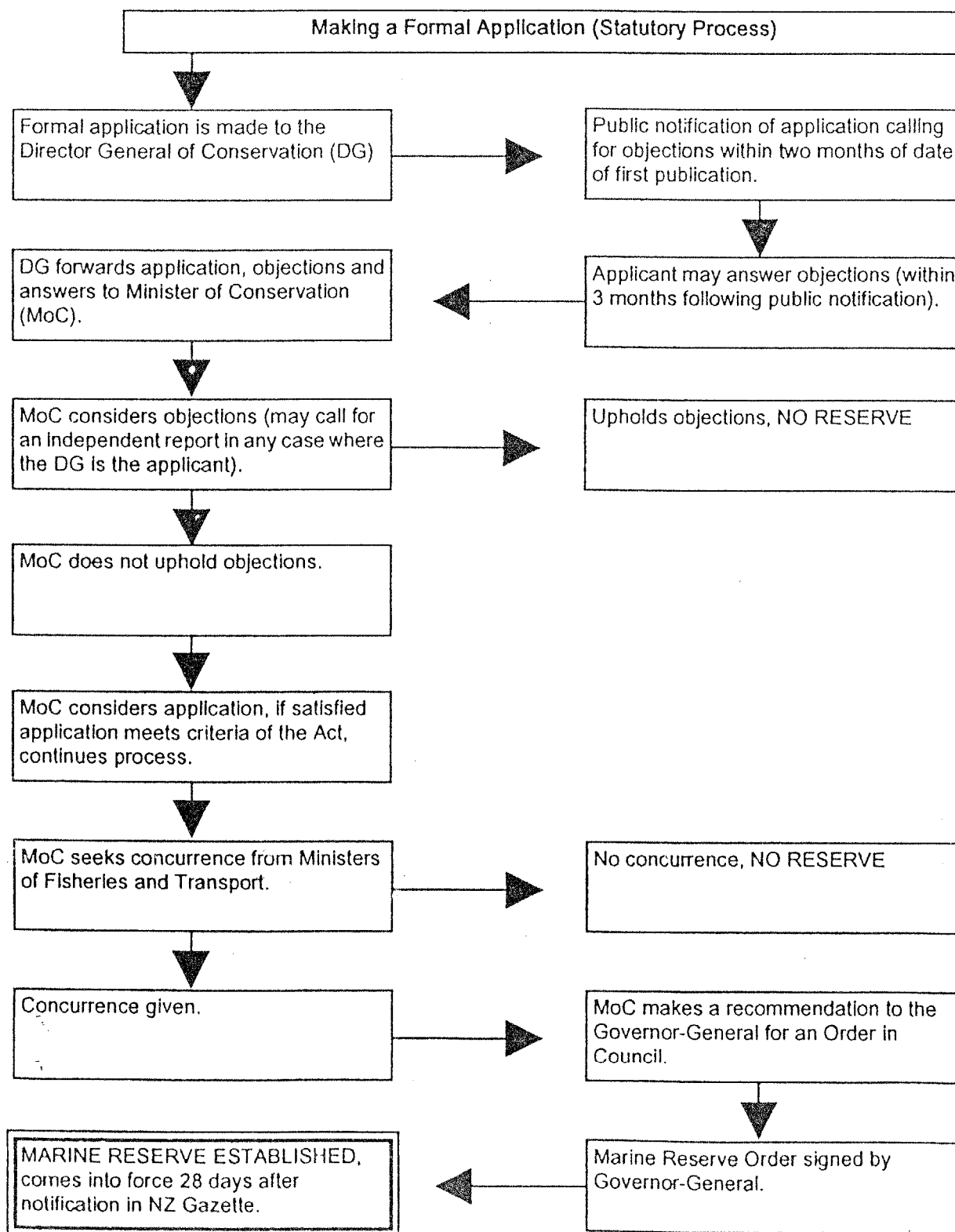
Marine reserves are created under the Marine Reserves Act 1971 and are administered by the Department of Conservation. Outside groups and organisations may make application for marine reserves, providing they fulfill the criteria laid out in the Marine Reserves Act. The Akaroa Harbour Marine Protection Society fulfills that criteria (see S.3.1). Currently, thirteen marine reserves have been established by a number of organisations as well as the Department of Conservation (see Appendix 6).

A marine reserve is declared by an Order-in-Council made by the Governor General on the recommendation of the Minister of Conservation and following the statutory process set out in Section 5 of the Marine Reserves Act. The Department of Conservation is responsible for managing marine reserves including enforcement of the offence provisions under the Act.

The Department of Conservation endorses community involvement in its management of marine reserves, and ways in which people may be involved in the proposed Akaroa marine reserve are outlined in Section 6.

### 1.3 Process for Establishing a Marine Reserve

Summary of the statutory process for establishing a marine reserve (see Section 5 of the Marine Reserves Act 1971 for detail).



#### 1.4 Responses Invited

Anyone wishing to object or to make a submission in support of the proposal will have an opportunity to do so, in writing no later than (dmy). They are forwarded to:

Director-General of Conservation,  
C/- Regional Conservator,  
Canterbury Conservancy,  
Private Bag, Christchurch.

A copy of the objection or submission in support is also required to be forwarded to the applicant, the Akaroa Harbour Marine Protection Society Incorporated, P O Box 56, Duvauchelle, Banks Peninsula.

Under the Marine Reserve Act 1971, the Director-General of Conservation will refer any objections to the proposal to the Minister of Conservation who will decide whether these should be upheld.

While the statutory process does not formally call for submissions in support, the Minister may also consider any submissions in support of the application which have been received and have been included in the applicant's answer to objections. Such submissions in support may be relevant to the public interest to which the Minister is required to have regard.

#### 1.5 Criteria

This application has been prepared following the Department of Conservation's publication entitled "*Marine Reserves - A Guide for Prospective Applicants.*"



## 2 Background

### 2.1 Origin of Proposal

Interest in protecting the marine environment of the Canterbury area first began in the late 1980's. In December 1989, the Royal Forest and Bird Protection Society Inc. (RFBPS) commissioned marine and coastal biologists to provide baseline ecological information in ten areas on the Canterbury coast. (Marshall and Hewitt, 1990). Near the Akaroa Heads the area "was found to be profuse with marine life. Observation and photography were helped by excellent visibility of up to twelve metres". Many fin fish were observed in the Dan Rogers area with a "large number of sheltered crevices in which crayfish could live".

### 2.2 Early Consultation and Investigation

The Canterbury Marine Reserves Steering Committee (CMRSC an open membership group including recreational and commercial fishers, Ngai Tahu, residents, environmentalists and divers), tabled a letter from the Underwater Adventurers Club dated 5 March 1991, suggesting a marine reserve near Wainui in the south western area of Akaroa Harbour. Reasons given were *"It (the area) is accessible to divers, the children's camp at Wainui, locals and tourists which frequent the area. It would be an easy area to police and should not cause any hardship to amateur or commercial fishers. There is known to be there, very small crayfish and diverse fish and plant life."*

In addition, in 1991, the Canterbury Marine Reserves Coalition (an early interest group of environmentalists and a member of the CMRSC) produced a document entitled *"Sites with Important Natural Values on the Canterbury Coast."* Fifteen sites were presented. On 28 May 1991 the CMRSC Meeting unanimously agreed to concentrate on promoting Site 11, an area near Wainui.

In September 1991 a survey to *"Investigate Local Support for Protection of the Wainui Area as a Marine Reserve"* was conducted by the RFBPS. One hundred and twenty six questionnaires were circulated to Wainui residents and bach owners accompanying a regular newsletter by courtesy of the Wainui Residents' Association. Seventy three responses were received, of these 34 supported the area as a marine reserve and 39 opposed. The largest group of respondents (29%) suggested the south eastern side of Akaroa Harbour.

The conclusion of the survey summary reads:

*"The reasons for the other side of the harbour included access to the Kaik from Akaroa, yellow-eyed penguins and other seabirds nesting and dolphins which visit the area. The area is also comparatively less fished."*

(Nyree Fea and Andrew MacMillan, 3 October 1991).

Following this consultation with Wainui property owners, the marine reserve investigation widened to include a possible choice of sites in Akaroa Harbour. Its supporters regularly attended Canterbury Marine Reserves Steering Committee meetings to inform members of progress.



In May 1993 the Akaroa Harbour Marine Conservation Working Group was formed, initiated by the North Canterbury Conservation Board. The purpose of this group was the preparation of a public discussion document on marine conservation in Akaroa Harbour. Members were invited to submit information about various marine conservation mechanisms, e.g. marine parks, marine reserves, taiapure etc.

The Friends of Banks Peninsula and the Akaroa Underwater Divers' Club published a Public Discussion Document in April 1994 which set out two specific site options within Akaroa Harbour: option one was in three parts, and included middle, outer and tidal flat sections: option two was in one part and was on the south western side of the harbour near Wainui. Respondents were invited to comment on these and to suggest preferred alternative sites in Akaroa Harbour or elsewhere on Banks Peninsula. A map was included on the return questionnaire.

Gabites Porter, Planning Consultants, Christchurch analysed the total 2,444 submissions. Some respondents made substantive submissions.

After considering the submissions and analysis, and following consultation with Department of Conservation, the boundaries of a proposed marine reserve for the Dan Rogers area were identified. Consideration was given to the proposed marine farming applications in the south western area of Akaroa Harbour and the three possible taiapure areas (see Section 2.3). The advantages of protecting a land to sea sequence and the outstanding scenic attractions of the Dan Rogers area contributed to this decision.

This application is a simplified variation on the outer harbour part of option one and is substantially smaller in area than the complete option one. Haylock's Bay has been included to allow public land access and to meet requests that some of the biological values of the outer coast of Banks Peninsula's be protected (See Section 3.6).

### **2.3 Tangata Whenua Consultation**

Regular consultation with Ngai Tahu has occurred from the beginning of marine reserve investigations in Canterbury in 1990 (see Appendix 3)

A Ngai Tahu representative described three preferred areas for taiapure in Akaroa Harbour at a CMRSC Meeting on 4 August 1992 as :

- Area around Onawe Peninsula for mainly symbolic purposes, and to protect the remains of old fish traps
- Onuku to Manukatahi
- Area from Tikao Bay to Mat White Bay.

The proposed Akaroa marine reserve does not include any of these areas.

## 2.4 Draft Marine Reserve Proposal

The Akaroa Harbour Marine Protection Society was formed and incorporated in February 1995 to facilitate the proposal for a marine reserve in the Dan Rogers area. In January 1995, following consultation with the Department of Conservation, a pamphlet was produced which describes the nominated area, the species and habitat, the supporting reasons for selecting this site, and access (See Appendix 4).

Approximately 150 copies were distributed to individuals or groups who were identified either from the Public Discussion Document or from earlier involvement, as being interested in, or affected by a marine reserve. Every effort was made to approach all interested parties. Unsolicited responses were received and welcomed. Consultation was ongoing for ten months.

## 2.5 Response to the Draft Proposal

Written responses to consultation are summarised as follows:

- 31 in support;
- 6 in opposition, including 2 that support a site 4km to the east;
- 3 acknowledged consultation;
- 1 residents' association that misunderstands the Marine Reserves Act 1971.
- 21 letters from the Okains Bay School expressed interest in the marine reserve and acknowledged consultation.

Media coverage assisted with the public information process. A statement of intention to promote the area described in this application was distributed with copies of the Analysis. Representatives of the AHMPS attended meetings to explain the proposal to interest groups such as schools, dive clubs, North Canterbury Conservation Board, Akaroa District Promotions, one residents' association, adjacent landowners, local iwi, recreational and commercial fishers. Banks Peninsula District Councillors and the Member of Parliament for Selwyn, David Carter, were kept fully informed on progress.

All adjacent landowners are enthusiastic about and supportive of the proposal.

## 2.6 Reasons for Site Selection

- ☐ The area satisfies the legal criteria set out in Section 3.
- ☐ The area is interesting in that it contains a representative array of habitats for the region. (*C. Battershill, personal communication.*)
- ☐ The shoreline and underwater area are beautiful with exceptional scenic and wilderness values.
- ☐ The three adjoining terrestrial reserves will ensure part of the adjacent coastline will not be developed. One of these areas has been described as "extraordinary" (*Wilson 1992*)

- ☐ A marine reserve would protect a sequence from land to sea.  
The area is described as one of "Significant Conservation Value"  
(Canterbury Regional Council 1994)
- ☐ Unlike the south western side of Akaroa Harbour, there are no marine farming consents issued for this area, and due to sea conditions, no applications are envisaged.
- ☐ This part of the harbour is the basis of several tourist ventures which contribute to Akaroa and the Banks Peninsula economy.
- ☐ The protection of 530 ha (12% of Akaroa Harbour) would allow fish and shellfish species to recover to a more healthy state in this area and may benefit fish stocks in the whole harbour.

## 2.7 Issues and Concerns

The following list shows the principle issues, concerns raised during the consultation process. Explanations are provided below each issue or concern:-

- ☐ Concern that the reserve, once gazetted, could be arbitrarily increased in area without consultation.  
*A marine reserve cannot be made larger arbitrarily without further public consultation.*
- ☐ Concern that the proposed reserve is not large enough.  
*The reserve boundaries are a compromise to meet concerns expressed by fishers. The area of this proposal is 530 ha and is not the smallest of any of the marine reserves proposed to date. Scientific information suggests the size of the area is adequate to protect the marine habitats, and the flora and fauna living within the area.*
- ☐ Need for greater understanding that marine reserves protect the physical environment, marine plants and all animals above and below the water, not just fin fish.  
*Education programmes in schools and the community are encouraged by the Department of Conservation, e.g. Conservation Week, Seaweed.. Marine reserves provide "living laboratories" which demonstrate this e.g. The Cape Rodney - Okarari Point Marine Reserve at Leigh has shown interesting crayfish, kina and kelp interactions.*
- ☐ Persistent confusion over what is prohibited in a marine reserve. e.g. anchoring, diving, water skiing and navigation.  
*Anchoring, diving and water skiing are allowed in a marine reserve and navigation through a reserve is unrestricted..*
- ☐ A call for harsher penalties to be imposed should the Marine Reserves Act be contravened.  
*Section 21 of the Act states: "Every person who commits an offence against this Act ... shall be liable on summary conviction to a fine not exceeding \$200 and, if the offence is a continuing one, to a further fine not exceeding \$10 for every day. At the present time there is a bill to amend the Marine Reserves Act before Parliament which, among other things, is intended to significantly increase penalties and to strengthen the offence provisions.*
- ☐ Concern about transporting fish caught in other areas through the reserve.  
*It is not illegal to transport fish caught in other areas through a reserve.*
- ☐ Concern about vehicle access to the reserve, and shellfish gathering by adjacent property owners.  
*Concern met by excluding Nine Fathom Point and including Haylocks Bay.*
- ☐ The Marine Mammal Sanctuary to protect Hector's dolphin, and its current review process, was often confused with the marine reserve.  
*The Marine Mammal Sanctuary currently under review is a separate issue.*
- ☐ Concern that a marine reserve cannot be established within the Marine Mammal Sanctuary.  
*There is no legal impediment to a marine reserve being gazetted within a Marine Mammal Sanctuary so long as there are no legal inconsistencies.*

## 2.8 Poatupa - Flea Bay:

Flea Bay is being considered by commercial and recreational fishers as a potential marine reserve. On 25 February 1995 fishers released a plan to the media to promote Flea Bay from Dyke Head to Flea Bay Island as a marine reserve, encompassing an area of approximately 80 ha.

Flea Bay is situated on the south east coast of Banks Peninsula, 11 km from Akaroa and 4km from the area represented in this application. Formed by the action of sea and rain on the old Akaroa volcano, Flea Bay is approximately 2km long by 1/2 km wide. The two beaches in the bay are sand backed by shingle. While the bottom of the bay is hard sand with patches of boulders at the beach end of bay, this merges with offshore seabed material further towards the entrance to the bay. The southern entrance to Flea Bay, Dyke Head, has a reef 10 metres parallel offshore and a number of offshore rocks, eroded sea stacks, with boulder seabed between them. The northern shore has a wide rock ledge above the tide line for half of its length. Underwater, this shore shelves towards the sea floor.

All along the northern shore, together with both beaches, are the main haul out areas for white-flipped penguins of which there are about 200 - 300. There are at least two pairs of yellow eyed penguins frequenting Flea Bay. (*F. Helps, pers comm*).

A marine reserve at Flea Bay could attract many visitors, who are often accompanied by dogs. This could impact negatively on the penguin population.

The Public Discussion Document Analysis did not indicate that Flea Bay was a preferred site for a marine reserve. Only 9 respondents out of a total of 2,444 specifically mentioned support for Flea Bay. Thirty seven respondents who answered Question 7 (318 people) of the Public Discussion Document in 1994 specifically supported a reserve within Area 3 which included Flea Bay (i.e. from Te Ruahine Point to Hickory Bay). Eighteen of these 37 also supported a marine reserve in Akaroa Harbour.

There is nothing to preclude a marine reserve application being lodged for Flea Bay.



## 3 Application

**3.1** The Applicant is the Akaroa Harbour Marine Protection Society Incorporated (1995). This Society was formed under the umbrella of the Friends of Banks Peninsula Incorporated to focus on the application. This group has as its objectives:

- ☐ The scientific study of marine life or natural history, especially within marine protected zones.
- ☐ Public education and recreation in respect of marine protected zones.
- ☐ The study of the effects of terrestrial activity on the marine environment, within marine protected zones.

The Society's members are drawn from a wide background, including marine scientists, residents, divers, recreational fishers, environmental educators and adjacent landowners.

### 3.2 Location

The area of the marine reserve is in the south eastern area of Akaroa Harbour, Banks Peninsula, extending around the head of Akaroa Harbour to Gateway Point. See Plan on Page 10. Manukatahi is 5 km from Akaroa township which has a population base of approximately 800 residents. Akaroa is a popular holiday destination with a peak summer resident population of 3,000 to 4,000 people. Christchurch is 85 km from Akaroa on State Highway 75. The reserve is to be known as the Akaroa Marine Reserve and would be the first marine reserve in Canterbury. (*Detailed description of Akaroa and its Harbour are contained in Appendix 2.*)

### 3.3 Boundaries

*From Manukatahi, near Nine Fathom Point (known commonly as Grasshills):*

Lat. 43° 51.48' S, Long. 172°, 56.55' E following a line bearing 220° T to the line described by the Wainui Leading Lights.

*From Gateway Point:*

Lat 43° 53.52' S, Long. 172° 59.05' E following a line bearing 220° T to the line described by the Wainui leading lights.

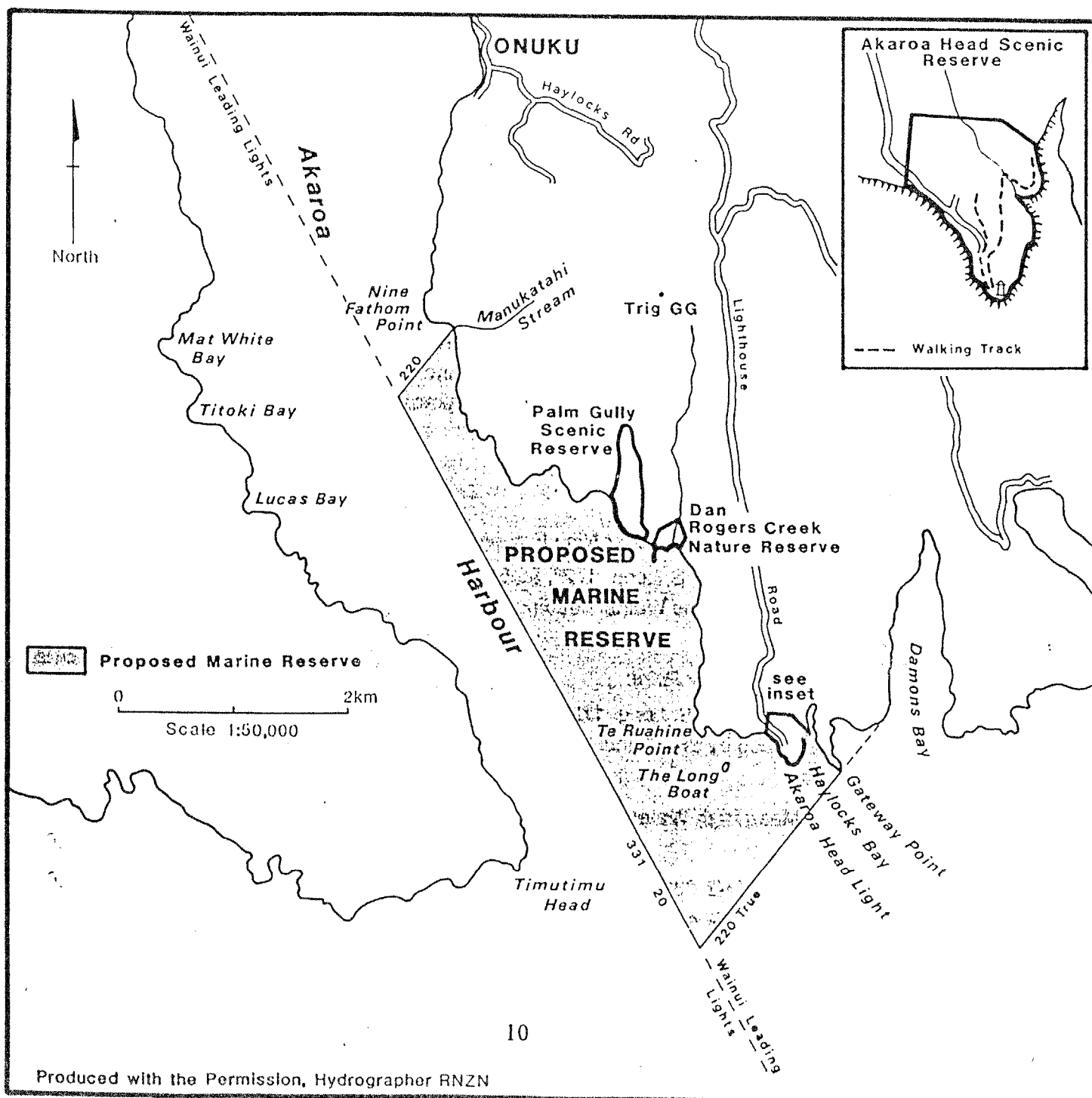
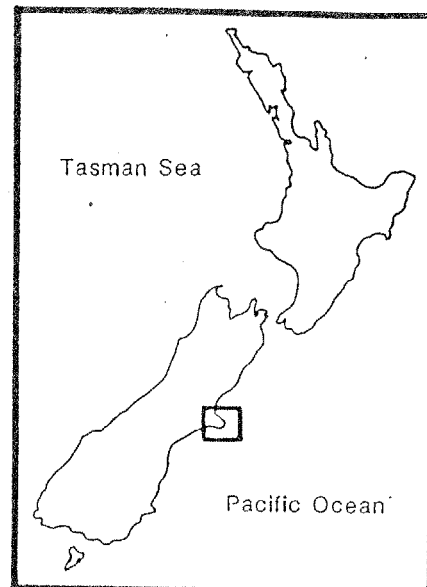
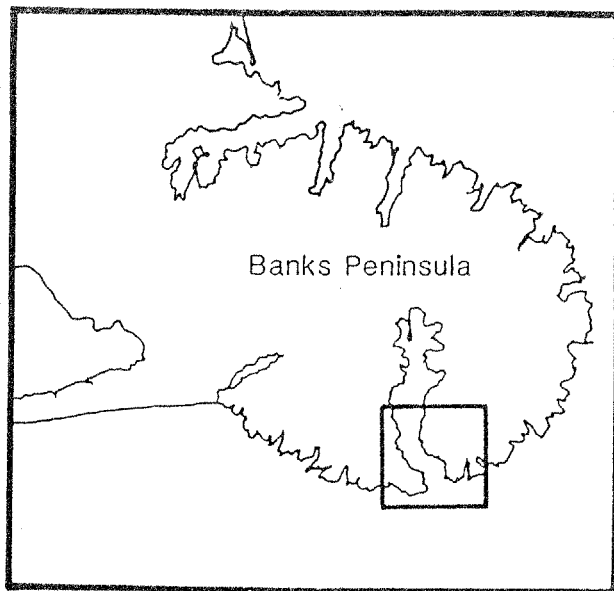
To Mean High Water Springs.

Chart No. NZ 6324.

(See Section 6.3)

This would protect the foreshore and seabed over an area of 530 hectares.

Figure 1: Proposed Akaroa Marine Reserve



### 3.4 Objectives

This application seeks to recognise public support for the creation of a marine reserve in Akaroa Harbour.

The proposed objectives of this marine reserve are:

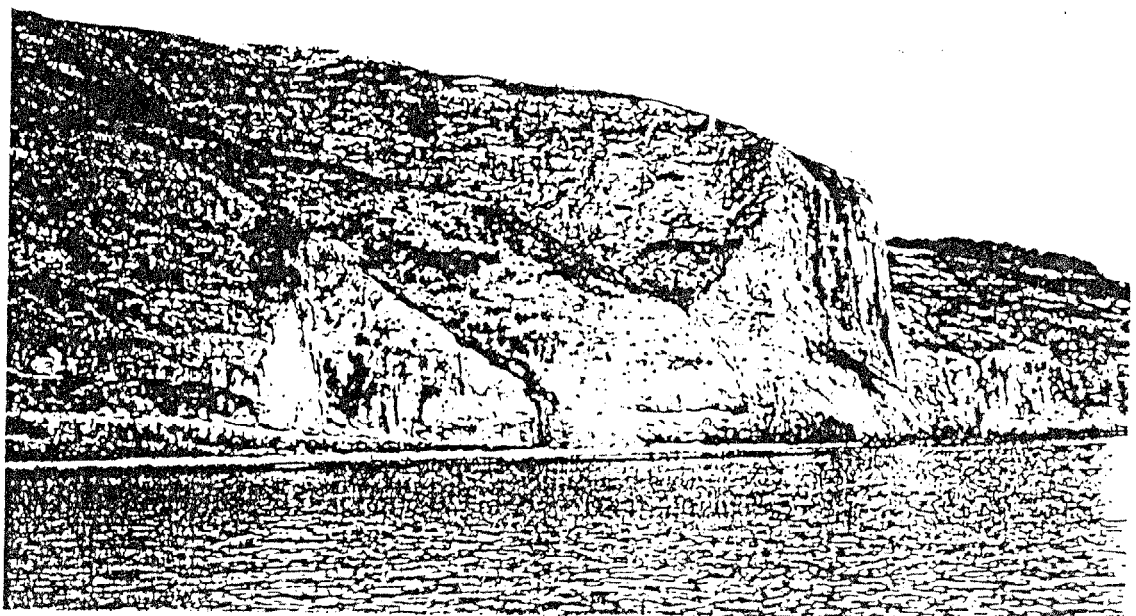
- ☐ to provide educational and recreational opportunities on Banks Peninsula in a natural environment, particularly in Akaroa Harbour.
- ☐ to preserve a portion of the inshore marine environment of Banks Peninsula for future generations to enjoy.
- ☐ to protect a representative area of the marine environment of the outer harbour.
- ☐ to allow populations of extensively sought after species such as rock lobster and paua, and the communities of which they are part, to rehabilitate to a more natural state.
- ☐ to give recognition by protection to the unique combination of highly ranked terrestrial coastal reserves situated adjacent to an interesting marine environment.

### 3.5 History

**Manukatahi** is the name of the small creek and means "*one manuka tree*". This place was once covered with dense bush mostly of black pine and totara, but in later years there was one solitary manuka tree in the centre, which was looked upon as sacred by the Maori.

**Haylock's Bay**, named after early inhabitants, has historic interest as remnants of the early lighthouse-keepers' occupation are visible. The ladder leading down onto the ledge at the western side of Haylock's Bay was used to ferry provisions to the lighthouse-keepers in the days when the lighthouse was manually operated.

*Dan Rogers Cliff*



**Dan Rogers** - The origin of this name is obscure. The Maori name for Dan Rogers cave is "*Te Whata-o-kokiro*" after a Ngati Mamoe chief who had a storehouse and whare on the landing below the cliffs.

**Te Ruahine Point** - The name of the south-eastern point of land near the entrance to Akaroa Harbour, about half a mile west of the Light. Te Ruahine Point has often gone by its corrupted form *Truini Point*. "*Te Ruahine*" is generally translated as "the two maidens" but it may mean "the old woman" named after Raukura, an old wise woman or ruahine and member of the Tikao family who lived alone at this spot.

**Nikau Palm Gully** - "*O Te Rako*" is the old Maori name for this part of the coast, which means to "shove out quickly" and evidently applies to a difficult landing place. It was often visited by the Maori to get the leaves of the nikau palm to thatch their whares. The landing place on this part of the coast was very rough at times as there is a very strong current and the canoes had to be carefully handled.

**Otehore** - The site of Trigg GG at the head of Dan Rogers Gully was the location of an ancient Maori observation point.

**Human Settlement** - The adjacent land area was significant for pre-European Maori as mahinga kai. Following European settlement the land has been farmed for wheat growing, timber cutting, dairying and pastoral farming. The Lighthouse was built in 1875 with an adjoining keeper's house. Currently the lighthouse is fully automated and the adjacent farms run sheep and cattle.

### **3.6 Natural Values**

#### **Coastal Setting**

This area, with its dramatic land and seascape of coastal cliffs and small caves, and bushed gullies and hillsides, has very high scenic values.

The spectacular 275 metre volcanic bluff at Dan Rogers dominates the seascape. The lava flows drop off steeply at the sea's edge frequently into water that is 10-20 metres deep. Narrow platforms have been cut into the lava formations in some places. The "Long Boat", a long narrow piece of resistant lava left as a stack standing in about 20 metres of water, is a distinctive feature near Akaroa Head. In some places, such as Nikau Palm Gully there are steep boulder beaches.

At Gateway Point, erosion has pierced a hole through the volcanic formation, commonly referred to as the "Spyglass". The coastal scenery of this area is predominantly cliffs, with a variety of rocky ledges and outcrops.

There are three scenic reserves adjacent to the proposed marine reserve managed by the Department of Conservation: Palm Gully (20 ha); Dan Rogers (7 ha); Akaroa Head (14 ha).



In terms of scenery, Dan Rogers and Palm Gully reserves occupy probably the most dramatic settings of any on the Peninsula's protected areas, and biologically they also rank very highly. The huge sea cliffs are decorated with all the colours and shapes that coastal lava landscapes are famed for, with ledges often generously white-washed by colonies of spotted shags. Both areas nestle down into deep amphitheatre amid these bluffs.

Wildlife includes breeding colonies of white fronted terns, black backed gulls and white-flipped penguins. Red billed gulls, spotted shags and Australasian gannets are regularly seen from the reserve, and in certain conditions mollymawks, shearwaters, fairy prions, cape pigeons, petrels and whales are sometimes seen. Young fur seals often visit Haylocks Bay. (*Dennis DOSLI*)

Near Palm Gully Reserve is habitat in which two or three pairs of the endangered yellow-eyed penguin attempt to breed. With only 30 - 40 pairs of this species around Banks Peninsula, the northern limit of the population, this site is significant. Yellow-eyed penguins are also seen near the Dan Rogers cliff. An established colony of white-flipped penguins near Dan Rogers is surrounded by cliffs that afford some protection from predators.

The white-flipped penguin is a distinctive form of the Little Penguin (*Eudyptula minor*) that breeds on Banks Peninsula and Motunau Island. Like other localised inshore penguins it is at risk from a range of man-induced factors such as marine pollution, the direct and indirect effects of commercial and recreational fishing, and predation by introduced mammals. While the penguin population on Motunau Island appears to be stable, there is good evidence that the Banks Peninsula population has been declining in recent years. The conservation status of the white-flipped penguin on Banks Peninsula is deteriorating rapidly. (*C. Challies, personal communication*)

A marine reserve in this outer part of Akaroa Harbour, with the adjacent three terrestrial reserves would protect a sequence from land to sea.

#### **Marine Habitat:**

The underwater topography near Dan Rogers is interesting and varied. There are reefs of huge basalt boulders that create caves and overhangs. Vertical or overhanging basalt faces are a common feature of the outer harbour. Resting on the bedrock at the base of the cliff faces are often jumbles of boulders and cobbles. In some cases, fields of boulders continue for some distance offshore (up to 100m in places). Gradually the size of seabed material diminishes offshore grading into coarse shell sand and eventually muddy silt.

#### **Intertidal Marine Communities:**

Intertidal communities in the outer harbour resemble those described by Knox (1963) for other hard shorelines around Banks Peninsula. Species richness is generally reduced, however, as a consequence of intense wave action. At about high tide level there is a distinctive band of barnacles including the small columnar

barnacle and the larger plicate barnacle with occasional patches of the modest barnacle. Below and amongst the barnacles where crevices provide attachment sites, the blue mussel forms a distinctive zone with occasional ribbed mussels also present. Near low tide level where the bull kelps *Durvillea willana* and *D. antarctica* occur the green mussel is dominant with very large specimens being common. At exposed sites (i.e. those facing south and unprotected from wave attack) there are few mobile molluscs occurring. Where they do occur they are mostly confined to crevices or the sheltered sides or under surfaces of rocks.

At Nikau Palm Gully where part of the boulder beach is protected by larger boulders further offshore, there is a concentration of common paua and some yellow foot paua in the pools at low tide level. Densities of 20 paua per square metre have been recorded here. On a few of the most protected boulders there is a thick white encrustation of the blue tubeworm. Well up the shore from high tide level and extending through the upper half of the intertidal zone littorinid snails were common. At the most exposed sites with an extensive splash zone they were present up to 20 metres above high tide level.

Besides an intermittent fringe of bull kelps at low tide level a variety of intertidal algae are present in the outer harbour zone. As with the invertebrates the algal flora is more diverse and abundant where there is shelter from wave attack.

#### **Subtidal Marine Communities:**

Below low tide level there is a striking increase in the richness of plant and animal communities. At the top of the steep faces that characterise much of the subtidal habitat of the outer harbour there is usually a fringe of bull kelp with smaller brown algae immediately below it but extending only a short distance down the face.

Large green mussels tightly packed together smother the upper few metres of faces and gradually become sparser with increasing depth. Sea tulips, hydroids, sponges and sea squirts extend to the sea bed. A range of sea anemones are scattered over faces. There is a complete cover by this colourful mosaic of species on most surfaces including the cobbles and boulders scattered on the sea bed at the base of the steeply sloping or vertical faces.

The softer sediments of the seabed support populations of horse mussels. Attached to these are encrusting sponges and sea squirts along with a variety of red algae. On the sediment surface cushion stars and snake stars are common with occasional biscuit stars also present. Within the sediment itself are a variety of tubeworms and molluscs including the small scallop and other tiny bivalves. In deeper water where thick encrustations occur on boulders the small pink brachiopod, *Terebratella* are found.

The area at the entrance to the Harbour is scientifically interesting because of clumps of large green mussels, usually seen intertidally and in the shallows, at depth, greater than 20m. The reef in this area is extremely exposed as evidenced by the thinly encrusted faunal community. The rock stacks and reef around

Gateway Point support an extremely rich and diverse fauna and flora, the species compliment representing the Banks Peninsula area well. At least 10% of the benthic species found in the area of Gateway Point are "undescribed". The area supports a diverse array of Southern New Zealand fish species, a number of which would be important as food resources to Hector's dolphin. (C.N. Battershill pers.comm.)

Fish species observed in the area include wrasse, butterfish, rock and blue cod, blue moki, triplefin, leatherjacket, carpet shark and whitebait. Many other wide ranging pelagic and demersal species may enter the harbour on occasions.

The seaweed *Xiphophora gladiata novae-zelandiae* is unique to the region of Banks Peninsula and has been recorded in Haylocks Bay. The importance of the Haylocks Bay population lies in the fact that this endemic seaweed is growing there, whereas in so many other areas that one expects to find *X. gladiata novae-zelandiae*, it is mysteriously absent. This suggests that this area of Banks Peninsula has some special environmental features that as yet we do not understand. (M. Parsons, pers comm.)

### 3.7 Recreation

Due to the remoteness and access to the area, land based recreation adjacent to the proposed marine reserve is limited to walking and exploring the scenic reserves. A public road to the Akaroa Lighthouse attracts some visitors. Water based recreation includes sea kayaking, diving, "Swimming with Dolphins," nature watch launch trips and fishing.

Sea Kayaking in Haylock's Bay - Photo: Glyn Dickson



## 4 Implications for Users

### 4.1 Tangata Whenua

Kaimoana is gathered by bach owners and Maori owners of land adjacent to Onuku. Some kaimoana is collected along the coastline from Onuku to near Manukatahi, 2km from Onuku. All the species that may be gathered here are available in other parts of Akaroa Harbour. Iwi acknowledge that there are fewer shellfish available than twenty years ago. The Manukatahi boundary was drawn after taking into account concerns expressed by Ngai Tahu that adjacent areas were significant to them and could be considered as a taiapure. Ngai Tahu are positive to the development of marine reserves, one condition being "that the location does not interfere negatively with a traditional Maori fishing site." (*Ngai Tahu Maori Trust Board memo November 1992*).

Kaimoana gathering is often restricted for local iwi due to shellfish closures caused by marine biotoxins. Iwi are seriously concerned about water pollution from sewage outfalls in Akaroa Harbour and leachate from landfill sites.

### 4.2. Commercial Fishing

Crayfishing is the only commercial fishing known to the Applicant that takes place in the proposed reserve area. Akaroa Harbour is part of Quota Management Area CRA5, which extends from Farewell Spit to the Waitaki River, a distance of approximately 700 kilometres of coastline. Fishers may catch their quota in any part of CRA5. Historically Akaroa based crayfishers set pots on Banks Peninsula coastline, north to Hickory Bay and south to Poranui Beach. Individual fishers each mutually agreed on which parts of these areas would be fished. Two fishers currently set pots in the proposed reserve area, one of these for part of the season, although seasonal variations do occur. Because of the decline in crayfisher numbers over time, the two crayfishers currently operating would not be unduly affected by the marine reserve displacing part of their current fishing activity. Nowadays, six crayfishers operate from the home port of Akaroa - twenty years ago there were seventeen.

It is possible that the net long term effect of the reserve will be beneficial to the commercial fishing industry. The marine reserve will protect an area where marine life can breed without disturbance and where the whole ecosystem can be studied and compared with areas which are fished.

As the marine life knows no boundaries, it is probable that increased catches of crayfish will be available adjacent to the reserve as has occurred at the Cape Rodney - Okakari Point Marine Reserve (Leigh) at certain times of the year. Studies at Leigh have shown that crayfish taken from near the reserve were significantly larger, resulting in a higher yield per individual fisher. There were also other indirect benefits demonstrated, such as higher egg production, which has the potential to enhance the future of the stock. This is due to the fact that larger females produce more eggs than smaller females. Egg production is likely to be greater in reserve than non-reserve areas, given the increased abundance of crayfish within reserves, and their larger size afforded by protection. (*MacDiarmid & Breen, 1993 and S.Kelly, pers. comm.*)

### 4.3 Recreational Fishing

The proposed marine reserve area is fished from boats that have travelled from other parts of the Harbour. This area is most popular in strong north easterly wind conditions but fishers need to navigate the harbour to reach this sheltered area. There are no boat launching ramps nearby. The nearest is at Wainui five kilometres away on the opposite and south western side of the Harbour. Anecdotal information and random observations indicate the fishing effort is significantly less in this area than more densely populated inner and middle harbour areas.

The main species targeted include crayfish, blue moki, kahawai, red and blue cod all taken by hand, spear, line and net fishing methods. All these species can be caught in other parts of the Harbour. Shellfish such as mussels and paua are not commonly gathered in this area. Shoreline fishing is difficult due to the rugged coastal landscape along the shore.

A Banks Peninsula Fisheries Management Plan is currently being prepared and will be available for public comment when completed.

As with commercial fishing, it is expected that recreational fishers may experience increased catches in other parts of the harbour.

### 4.4 Charter Boat Operations

Four commercial operators are based in Akaroa offering visitors a variety of recreational opportunities in Akaroa Harbour, including viewing wildlife, swimming with the dolphins and fishing trips. None of these four operations will be adversely affected by the proposed reserve. All are likely to benefit from it because the reserve will provide an additional "attraction" for clients, mostly visitors, and may increase their customer base.

The largest vessel can carry 90 passengers and runs three scheduled trips each day during the peak summer season. At off peak times of the year this vessel runs at least one, and often two trips daily. This operator's "Mission Statement" states:

*"We aim to provide all our passengers with the best possible opportunities to view the most possible examples of wildlife and geographic features of Akaroa Harbour and to impart as much knowledge as possible to those students of nature who travel with us."*

This company has been in operation for ten years. During the past year the company has carried 70 school groups, 233 groups of less than 10, many of whom were special interest groups and over 120 larger groups. Passengers have a high expectation of sighting wildlife on this trip, particularly Hector's dolphins, seals and penguins, and come from all over the world. Some passengers travel especially to Akaroa to enjoy the Harbour cruise, thus increasing the visitor numbers with economic benefits for many businesses.

A second vessel operates the "Swim with the Dolphins" often with visits to the proposed reserve area as Hector's dolphin are regularly present there. A third commercial operator currently offers recreational fishing and diving trips. The fourth operator offers sea kayak rentals and guided trips for overseas and domestic travellers, often going ashore in the proposed reserve area to view wildlife.

#### **4.5 Marine Farming**

Due to the open coastal nature of the shoreline, it is unlikely that marine farming operations would be considered for the proposed area. The south western side of Akaroa Harbour is more sheltered. One marine farm is established in this area, and three further applications have been approved.

#### **4.6 Diving**

Some diving takes place within Akaroa Harbour, but areas along the open coast eastwards towards Pompey's Pillar and westward towards Birdlings Flat are more popular. Rough ground is extensive in the Dan Rogers area and from Te Ruahine Point to Gateway Point including the Longboat. The remainder is mud/sandy bottom. Diving can still continue in the reserve, once established and some areas are likely to become popular for underwater photography as the reserve becomes better known and the restorative process advances. Divers who hunt currently take crayfish and blue moki. from the area.

#### **4.7 Adjacent Landowners**

Private landowners immediately adjacent are engaged in pastoral farming. In addition, one landowner operates a backpacker business which is also the beginning of the "Banks Peninsula Track", a commercially operated track covering 35km of *"spectacular volcanic coastline, fringing a marine mammal sanctuary not previously accessible to the public."* The Banks Peninsula Track won the Canterbury Regional Council Award for the protection/enhancement of the region's national resources in 1994.

#### **4.8 Other Forms of Recreation**

The most popular reason for visiting the Peninsula is to enjoy *"scenery, peace and quiet, atmosphere, rest and relaxation"* with water related activities *'scoring highly'* in a survey of visitors (Meldrum & Associates 1989). Creating the reserve will enhance people's enjoyment of these activities. Large numbers of people already enjoy visiting the area on board the tourist launches.

Visitors to the Akaroa Information Centre for January to April 1995 increased in number by 82% compared with the same period in 1994 i.e. from 8,126 to 14,800. The Centre has discovered that *"most people come to Akaroa to look around, view the scenery, unwind and relax."* (Information Centre Report, May 1995)

#### **4.9 Economic Interests**

In 1992 a survey was carried out by Cocklin and Flood on the economic benefits of the Leigh Marine Reserve. 80% of residents surveyed thought that the Leigh township would be worse off if the marine reserve did not exist (of those 56% thought this would purely be an economic loss). The marine reserve appears to have facilitated the establishment of new businesses within the local area. For example, two dive support facilities have been established at Leigh.

Nearly the entire sample of the 1992 survey (95%) rated the effects of the marine reserve on the community as positive and very positive. The majority of bach owners (72%) visit Goat Island beach because it is in a marine reserve. As Akaroa has a high ratio of bach owners to residents, comparisons could be made to the studies at Leigh.

Akaroa is marketed as a quaint, peaceful and historic seaside town with a French flavour. The Visitor Centre fields many inquiries for places to walk, preferably where birds and animals can be seen. The Akaroa Civic Trust has published a pamphlet of historic village walks, and other pamphlets are available that describe walks of varying duration and difficulty.

#### **4.10 Scientific Interests**

The creation of a marine reserve would provide opportunities to study a totally protected outer harbour and open coastal environment on the east coast of New Zealand. A reserve will allow comparisons to be made with other more modified areas.

A population survey of white-flipped penguins (*eudyptula minor*) is planned in the proposed marine reserve area. Should the reserve be established, surveys of this kind may provide useful information for comparisons to be made in other areas.

#### **4.11 Educational Interests**

Many school and community groups visit Akaroa Harbour throughout the year and a highlight is often a harbour cruise. Proximity of Akaroa to three major universities, i.e. Otago, Lincoln and Canterbury, offers study opportunities for students. The YMCA Camp at Wainui, 5km away on the south western side of Akaroa Harbour, is developing an outdoor education programme that includes coastline studies of the marine environment. A boat will be available from the 1995/6 summer for Camp residents who currently regularly visit the proposed reserve area. A marine reserve will add a new dimension to existing study opportunities.

The Akaroa Spring School offers courses for up to a week in Akaroa's unique setting, and up to 200 enrolled students annually are encouraged to enjoy the outdoor leisure opportunities. The Akaroa Community Arts Council, established over ten years ago, contributes to and supports a diversity of cultural activities that benefit residents and visitors alike. Akaroa is flourishing as a centre for educational and cultural experiences, with a scenic and coastal setting backdrop.

Akaroa Area School students use Akaroa Harbour for many educational and recreational activities. Classes at all levels study rocky shore communities as part of the National Curriculum in science and biology. It is anticipated that many of these studies will include areas within the proposed reserve. Senior classes in geography make field trips to parts of the harbour to study environmental issues including land and water use and pollution. Outdoor education classes use the harbour for sailing and kayaking.

The Sixth Form Certificate Outdoor Education class has paddled throughout the harbour on expeditions to Dan Rogers, Lucas Bay, Wainui and inner Harbour tidal flats.

#### **4.12 Conservation Interests**

RFBPS, Environment Centre, Save Our Seas Coalition, Marine Watch and the Environmental Education Support Group have all stated they are in favour of the creation of a marine reserve in this area. The lack of shore access to much of the coastline could be beneficial in protecting wildlife from disturbance, particularly the endangered yellow eyed penguin.

As there would be no set netting within the marine reserve, Hector's dolphin, penguins and sea birds would be afforded year round protection from entanglement.





# 5 Justification

## 5.1 Purposes of Marine Reserves Act

Section 3(1) of the Marine Reserves Act 1971 states that marine reserves have:

*"..... the purpose of preserving, as marine reserves for the scientific study of marine life, areas of New Zealand that contain underwater scenery, natural features, or marine life, of such distinctive quality, or so typical, or beautiful, or unique, that their continued preservation is in the national interest".*

The marine environment between Manukatahi and Gateway Point meets such criteria. The proposed area includes:

- ☐ marine life which is typical of parts of the exposed Banks Peninsula coastal environment relatively unmodified by human activity.
- ☐ spectacular cliffs, caves and reefs unique within Akaroa Harbour,
- ☐ underwater basalt boulders and scenery that is both beautiful and of distinctive quality
- ☐ a unique seaweed to the region of Banks Peninsula in Haylocks Bay

The unique seaweed (*xiphophora gladiata novae-zelandiae*) is scientifically interesting. In addition, the reserve will provide an ideal location for scientific studies of a wide range of marine life. This is particularly important as there are no other reserves on the Canterbury coast where such controlled studies can be undertaken.

The three adjacent scenic reserves with their special qualities (see Section 3.6) offer a unique opportunity to protect a combination of land and sea ecosystems that is not present elsewhere on Banks Peninsula.

The establishment of marine reserves is in the national interest as scientific study and monitoring of marine life protected in this way facilitates assessment of human impacts, particularly fishing, on marine ecosystems. It is therefore in the national interest to establish marine reserves in areas that are typical, or representative of much larger areas so that the results of this research will be widely acceptable. (Ballantine 1991)

## 5.2 Other Legislative Criteria

Section 4(1) of the Marine Reserves Act 1971 prohibits the creation of a marine reserve in any area where a lease or licence has been issued under the Marine Farming Act 1971. No lease or licence is currently held within the area of the proposed reserve.

There are no current licences or permits to prospect, explore or mine any Crown owned mineral resources, including petroleum, in the area of the reserve or the entire Akaroa Harbour area. It is not included in any plan by any local authority or regional council now under the administration of the Resource Management Act. There are no sewage or stormwater outfalls, or sand and shingle licences issued for the reserve area and no permits or applications for marine dumping.

### 5.3 Public Support

In the majority of cases the proposal complements the activities outlined in Section 4 of this Application and is therefore a logical addition to the attractions of Akaroa. Response to the Public Discussion Document in 1994, and the draft proposal in 1995, and other consultation, shows a marine reserve in the south eastern area of Akaroa Harbour has support. (See Appendix 3)

The site presented in this application has no adjacent boat launching access from the land and very limited shore access. The boundaries have been selected to reduce potential adverse impacts on existing use of the area, yet seek to protect a significant area of the coast for future generations to enjoy.

*South eastern side of Akaroa Harbour looking towards Te Ruahine Point*



# 6 Proposed Management

## 6.1 Level of Protection

If the marine reserve application is successful, the proposed area would be totally protected; all fishing would be prohibited unless authorised for scientific study. People will be encouraged to explore the reserve and observe marine life above and below the water, but activities which damage, disturb or remove organisms, or their habitat will not be permitted.

## 6.2 Navigation and Anchoring

Concern has been expressed about the possibility that navigation in and other rights of access to the proposed reserve may be restricted in future. Freedom of access through the marine reserve is provided under Section 3(2)(d) of the Marine Reserves Act 1971: *"subject to the provisions of this Act and to the imposition of such conditions and restrictions as may be necessary for the preservation of marine life or for the welfare in general of the reserves, the public shall have freedom of access and entry to the reserves, so that they may enjoy in full measure the opportunity to study, observe and record marine life in its natural habitat"*.

Section 23 of the Marine Reserves Act 1971 also preserves rights of access and navigation (other than anchorage) at all times subject to any regulations that might be made. Regulation 5(1) of the Marine Reserves Regulations 1993 provides that *"subject to the Act and to subclause (2) of this regulation any person may anchor in any part of a reserve in such a manner that damage to the reserve does not occur or is kept to a minimum practicable level"*. Reg 5(2) relates to areas closed for scientific study.

## 6.3 Identification of Boundaries

Seaward boundary:

- the line described by the Wainui leading lights. In the future it is expected that this line will be visible in daylight.

Land boundary:

- The shoreline at Mean High Water Springs

South:

- the line bearing 220° T from Gateway Point forms a transit bearing with Gateway Point and the west head of Damons Bay.

North:

- The line bearing 220° T from Manukatahi may be marked with two poles on the land forming a transit bearing.  
(See Section 3.3)

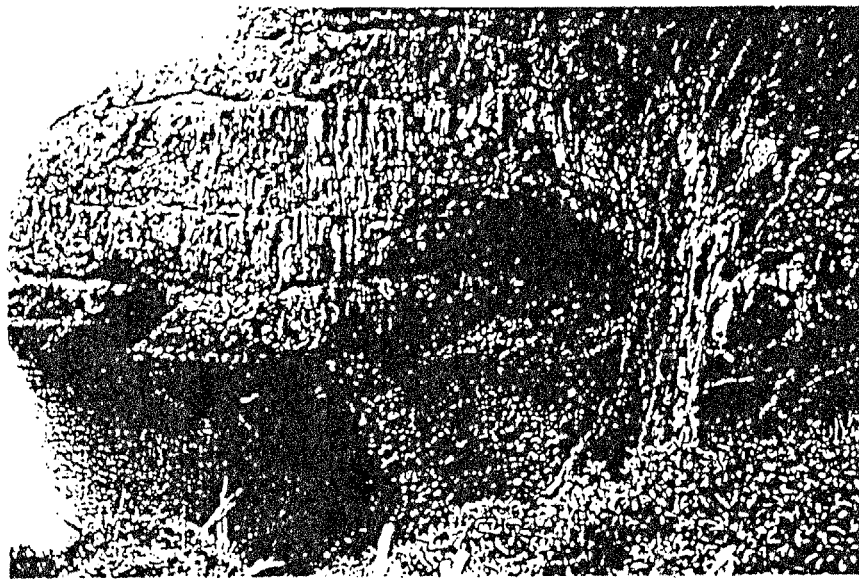
#### 6.4 Enforcement

Policing the reserve will be the responsibility of the Department of Conservation. The ultimate success of any marine reserve depends on community support. Assistance will be sought from iwi, local residents, boat owners, divers, fishing organisations and Ministry of Fisheries staff.

As all the charter boat operators are supportive of the reserve, and as they visit there daily, it is expected they can observe activities in the area. Honorary rangers may be appointed by the Department. The support already provided by the community suggests there will be no difficulty in obtaining local assistance where this may be required.

The Department of Conservation has an enforcement team that currently monitors the Marine Mammal Sanctuary by randomly patrolling Banks Peninsula. The Department's staff would include surveillance of the marine reserve in their enforcement work around the Peninsula. Further, two Department of Conservation field staff, based in Akaroa, accompany scientists studying Hector's dolphin in the Akaroa Harbour region each summer and would also be able to assist with enforcement.

*Sea caves near Nikau Palm Gully*



#### 6.5 Scientific Study and Monitoring

Marine reserves provide opportunities to investigate flora and fauna in the absence of human impacts. The Akaroa Harbour Marine Protection Society would like to see scientific and educational institutions carry out scientific studies within the reserve to characterise the area in detail, provide quantitative information on the distribution and abundance of selected species, and to further our knowledge of the marine habitats in this area.

For example, the New Zealand Marine Sciences Society has recommended surveys to be conducted to study changes in the fauna and flora of the area once the marine reserve has been established. (*Secretary, Marine Science Society, July 1995 pers comm.*)

## **6.6 Education and Interpretation**

The applicant recognises the recreational and educational benefits of first-hand experience of a marine reserve and will actively promote the use of the reserve for such purposes. Educational and promotional opportunities provided by Seaweek, school visits and the outdoor education camp at Wainui will be pursued. The commentary of tour operators who may benefit from the additional attraction in Akaroa Harbour will provide publicity.

Education and advocacy will be aimed at generating respect for the area and an understanding of the rules. The Department of Conservation will erect signs at suitable locations and produce a brochure of the marine reserve.

## **6.7 Committee**

The Department of Conservation has involved the local community in the management of marine reserves established elsewhere through the formation of committees. A committee could be established for the Akaroa marine reserve which has delegated authority from the North Canterbury Conservation Board and has representatives from iwi and key interest groups of the area.

# **7 Summary**

This application represents the culmination of over four years of active involvement, consultation and compromise by residents and proponents of a marine reserve in Akaroa Harbour.

With no other marine reserves in Canterbury, or on the east coast of the South Island, the benefits and success of reserves is difficult to demonstrate. The original conservation ideal of protecting parts of each of the three marine habitats in the harbour has been compromised in response to various concerns expressed.

The proposed marine reserve is situated on a beautiful and rugged coastline which is habitat for an impressive diversity of plant and animal life. Three adjacent terrestrial reserves are an important and relevant adjunct.

With existing high visitor numbers, many of them students, Akaroa is well situated to encourage marine education, particularly in the proposed marine reserve.

# Appendix 1 – Formal Notice

Copy of the formal notice of the intention to apply for a marine reserve between Manukatahi and Gateway Point, on Banks Peninsula.

## **Akaroa Marine Reserve Proposal Notice under Section 5, Marine Reserves Act 1971.**

Pursuant to Section 5 of the Marine Reserves Act 1971, the Akaroa Harbour Marine Protection Society Incorporated hereby gives notice of its intention to apply for an Order-in-Council declaring an area in Akaroa Harbour a marine reserve. The proposed name of the reserve is Akaroa Marine Reserve.

The area covered by this application comprises 530 hectares and lies on the eastern side of outer Akaroa Harbour, between Gateway Point and Manukatahi (near Nine Fathom Point - also known as Grasshills).

The formal application including a plan of the proposed marine reserve showing all tidal water and the boundaries and extent of the area sought to be declared a marine reserve together with a full copy of the Application, may be inspected free of charge at the Department of Conservation office in Christchurch, the Christchurch Environment Centre, Arts Centre, Christchurch, the Akaroa Service Centre of the Banks Peninsula District Council, the Lyttelton Office of the Banks Peninsula District Council, the Wairewa Service Centre and the Akaroa School and Community Library. Copies of the Application document will be available at a cost of \$8 from the Akaroa Harbour Marine Protection Society Incorporated, P O Box 56, Duvauchelle.

Any person or organisation may object to the making of an Order-in-Council establishing the marine reserve by specifying the grounds of the objection in writing and submitting it to the the Director-General, Department of Conservation within two months from the date of the first publication of this notice. Submissions should be addressed to: The Director General of Conservation, C/- Regional Conservator, Department of Conservation, Private Bag, Christchurch. A copy must be forwarded to the Akaroa Harbour Marine Protection Society Incorporated, P O Box 56, Duvauchelle, Banks Peninsula.

The date of the first publication of this notice is 6th January 1996. The period for submitting objections closes on 6th March 1996.

This notice of intention to apply for a marine reserve is given by the Applicant, The Akaroa Harbour Marine Protection Society Incorporated whose address for service is P O Box 56, Duvauchelle, Banks Peninsula.

Brian Reid  
President  
Akaroa Harbour Marine Protection Society Incorporated.

## Appendix 2 Description of Akaroa and its Harbour

**Akaroa Harbour** is the largest harbour on Banks Peninsula. It is 14.5km long and covers 44 sq km (about 42 sq km at low tide). Akaroa Harbour formed about five million years ago, as rising sea levels flooded the eroded caldera of the Akaroa volcano. Since then the sea has eroded the old lava flows into high coastal cliffs. Surrounding the harbour is an attractive landscape of moulded hills, various arches and sea stacks, and beaches that vary from sand to stones and boulders.

Some scientists recognise Banks Peninsula as a unique marine ecological region in New Zealand, within which the long harbours of Akaroa, Lyttelton and Port Levy together make up a distinct ecological district. Despite water which can be clouded by silt stirred up by waves, the harbour has abundant marine life and many distinctive and diverse habitats.

The outer harbour near the harbour entrance is dramatic, with steep, hard volcanic rock walls, cliffs, sea caves and blowholes. There are large sea caves at Mat White Bay. The underwater seascape near Dan Rogers consists of reefs of huge boulders, many as large as rooms, vertical rock faces, overhangs and caves. In the outer harbour, red cod, sea perch, trumpeter, barracouta, kahawai, salmon and conger eels are often seen or caught. This area is also an important feeding, breeding and roosting habitat for a variety of seabirds, including terns, gulls, white-flipped penguins, some yellow-eyed penguins, and several hundred spotted shags. Fur seals frequently haul out here and Hector's dolphins (the world's rarest and smallest marine dolphin) are common, particularly in summer.

Palm Gully reserve has a surprisingly high diversity of both vegetation communities and plant species for such a small reserve with the cliffs and bluffs having an especially rich diversity of plants. (Ibell 1993). This is the best coastal forest remnant left on Banks Peninsula (or in Canterbury). The precipitous nature of the country means that both Dan Rogers Creek and Palm Gully reserves have natural barriers to stock intrusion, and have places probably still in primeval condition. Moreover, the forest in both areas has a distinctly northern flavour. Considerable numbers of adult (and young) nikau palms are found in both areas. Nikaus are here at their mainland southern limit, although those on Pitt Island in the Chathams are a little further south, and thus represent the southern extremity of all palm species in the world. (Dennis DOSLI circa 1990). The Akaroa daisy grows wild here and is particularly significant because it is endemic to the Akaroa Ecological District. (*H. Wilson pers. comm*).



Akaroa daisy  
*Celmisia mackayi*

Further up the harbour, closer to Cape Three Points where the waters are more sheltered, brown and red seaweeds grow more luxuriantly and in greater profusion. Large stands of bladder kelp are an important habitat for fish and other animals. On inter-tidal rocky shorelines around the harbour are top shells, porcelain crabs, cat's eyes, mats of barnacles, mussels and a variety of seaweeds.

Below the low tide mark a colourful mosaic of coralline algae, orange, pink and yellow sponges, sea squirts, sea tulips, pink and yellow anemones, hydroids and bryozoans cover the rock surfaces. Paua, cook's turban shell and green lipped mussels are common. Horse mussels, and starfish such as snake stars and cushion stars are found on the soft sea bottom along with tubeworms, sponges, hydroids and red algae. Beds of bull kelp and bladder kelp are home to reef fish such as butterfish, blue moki, banded wrasse, spotty, leatherjacket and triplefins.

At the head of the harbour, in Duvauchelle, Takamatua and other bays, where the water is shallow and the sediments very fine, there are extensive mudflats. The marine life is different but very productive, with sea grass, large beds of cockles and pipi, and enormous numbers of mudflat snails, bristle worms and crabs. Fish feeding over the mudflats at high tide and in shallow water further offshore include flounder, sole, rig, red cod, yellow-eyed mullet, stargazer, skate and salmon. These mudflats provide food for wading birds such as white faced herons, occasional reef herons, pied stilts and about 300 South Island pied oystercatchers. Numerous mallards and paradise shelduck occur in each small bay. Smaller numbers of rooks, Canada geese, black swan, white-fronted terns, black cormorants and little cormorants are also seen.

Akaroa Harbour is an important area on the peninsula, and its human history goes back at least 600 to 700 years.

"Akaroa was once a great Waitaha centre, and the hill Tuhiraki (Mt Bossu) preserves the name of the ko (spade) of Rakaihautu, the ancestor of early South Island Maori...Te Ake asked what was at Akaroa and was told kuku (mussels), pipi and mako (shark)...two kinds of seals, the pakake and popoiakore, were killed with clubs at or near Akaroa...(There is) a taniwha...Te Wahine-maru-kore, and with her male consort, Te Rangiorahina, she still lives in Akaroa Harbour. Both these great fish each have a rua (hole) which is said to be bottomless, and these holes lie off Mairaki Point near Opukutahi Reserve. Before he died Te Ake left those fish with at least one good commission, for they were told to safeguard friendly people on the sea..." (Told by Teone Taare Tikao to Herries Beattie, and published in 1939 in *Tikao Talks: Treasures from the Ancient World of the Maori*.)

The pa on Onawe Peninsula was the last fortified pa on Banks Peninsula until it was ransacked by Te Rauparaha in 1832.



Akaroa is the largest settlement in Akaroa Harbour. It has a friendly atmosphere and a reputation for arts and crafts, fine dining, nurseries, passive recreation, peace and tranquillity. Visitors enjoy exploring the narrow streets dotted with quaint early colonial houses and cottage gardens, many demonstrating a French influence. Akaroa has a colourful history of whaling, cocksfooting, timber milling, fishing and farming. Tourism has replaced many of these activities. Akaroa serves as a centre for a range of conferences and educational activities.

Today, the harbour has many different types of settlements and residences, such as the village of Akaroa, alternative lifestyle blocks, farms, retirement homes, numerous holiday homes, and tourist facilities such as wineries, farm stays and backpacker accommodation. Nurseries and vineyards benefit from micro climates. There is a strong emphasis on the tourism potential that Banks Peninsula, and in particular Akaroa Harbour, has to offer.

## Appendix 3 – Consultation

The Akaroa Harbour Marine Conservation Working Group (AHMCWG) was formed in 1993 and met for ten months. The AHMCWG had nominated representatives from local community groups, dive clubs, recreational and commercial fishers, local runanga, marine conservationists, aquaculturists and commercial tour operators and Dr Jonet Ward of the North Canterbury Conservation Board was the facilitator. Invitations to attend meetings, ex officio, were sent to the Ministry of Agriculture and Fisheries, Department of Conservation, Canterbury Regional and Banks Peninsula District Councils.

A Public Discussion Document "A Marine Reserve in Akaroa Harbour?" was published in April 1994 jointly by FoBP and the AUDC (See 2.2). Submissions closed at the end of June. All the submissions were analysed including those that arrived late.

The purpose of the Document was to survey public opinion, gauge support and clarify the proposal. More than 5,000 copies of the Document were distributed. This consultation was part of the pre-statutory requirement to establish a marine reserve and was not a formal referendum.

The total number of responses to the Public Discussion Document was 2,444. An independent analysis of submissions to the proposal was completed by Gabites Porter, Consultants of Christchurch.

Not unexpectedly, the most preferred activities of respondents were: swimming, picnicking and exploring. 962 respondents supported the general concept of a marine reserve in Akaroa Harbour "in a general way". 375 (15%) respondents resided permanently in Akaroa Harbour or Banks Peninsula. Of these, 189 (50%) supported and 176 (47%) opposed a marine reserve; 10 were undecided. 127 of total respondents preferred a larger area. Gabites Porter, in commenting on the results in the Analysis states that: *"The numerical results of the survey should be interpreted with caution because of the nature of the survey. Fundamentally, the respondents in this sort of survey are self-selected rather than a scientifically selected sample."*

The difficulties in analysing the questionnaire are outlined in the Analysis. A number of statements made in the newspapers wrongly interpreted the purpose of marine reserves and such statements may have influenced responses. For example, an article in the Christchurch Mail on 4 April 1994 states *"five marine reserve sites proposed for Akaroa Harbour will virtually close the harbour's fishing grounds to recreational fishers"*. A further letter to the Editor of the Christchurch Press on 2 June 1994 states that the writer *"was opposed to a marine reserve in the harbour unless features worthy of scientific study or that were unique were found, this being the specific purpose of the Marine Reserves Act 1971."* Conversely, several responses were in the form of letters illustrating a detailed understanding of the issues and the harbour.

Another difficulty in the analysis of submissions was an apparent campaign opposing the proposal. The Set Net Action Group stated in a letter to the Lottery Grants Board on 7 June 1994 *"Our Committee has been offered financial assistance and I have so far copied and distributed 1,000 questionnaires. These I am having returned to a separate address..."* 266 responses on the proposal document showed an alternative address for receipt of submissions. Over 1,000 responses were received in 11 envelopes at the official collection point, the Postal Delivery Centre at Akaroa.

The Analysis showed substantial support for and opposition to a marine reserve within all groups of harbour users (recreational fishers, divers etc.) and within all groups of residents (permanent residents, bach owners, visitors). 383 (16%) of respondents suggested other sites for a marine reserve. No clearly preferred alternative to the two options put forward emerged.

Copies of: *"A Summary and Analysis of Questionnaire Responses"* are available from the Friends of Banks Peninsula (Inc), P O Box 56, Duvauchelle, Banks Peninsula at a cost of \$10. The Analysis is also available to be viewed at the three Banks Peninsula District Council Offices, the Canterbury Regional Council, the Environment Centre, and the Akaroa School and Community Library.

Because the Analysis indicated a reasonable level of support which was difficult to assess due to various problems as outlined, it was considered appropriate to carry out further consultation to assist the proposal. A pamphlet produced in 1995 was sent to schools, dive clubs, scientists, residents' associations, tour operators, commercial and recreational fishing associations, aquaculturists, environmental educators, environmental groups, councils, North Canterbury Conservation Board, adjacent landowners, Ngai Tahu, Banks Peninsula Fisheries Plan Working Group Members, boating clubs, museums, and working mens' clubs. The Banks Peninsula and Canterbury Regional Councils, Ministry of Fisheries, DoC, Maori Land Court, Ministry of Commerce and the Maritime Safety Authority were informed and invited to comment.

The level of written support and the continuing consultation with the community of a positive nature, indicated that an application for the Dan Rogers area should proceed and in 1995 the Akaroa Harbour Marine Protection Society Incorporated was formed (the Applicant) to facilitate the lodging of a marine reserve application.

## Tangata Whenua

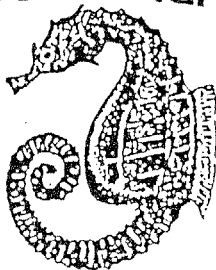
Ngai Tahu representatives and residents of Onuku were regularly invited to Friends of Banks Peninsula Meetings. Many informal discussions have taken place on the subject of marine reserves, particularly with the late Henare Robinson, Onuku (d.1992). Ngai Tahu have been kept fully informed of all progress on the marine reserve by telephone and by letter, and have been regularly invited to comment.

In addition:

1990 to 1993	Marine reserve advocates attend bi-monthly CMRSC Meetings which included Ngai Tahu representation.
May 1993	Ngai Tahu invited to join Akaroa Harbour Marine Conservation Working Group to share information and write marine conservation mechanisms, including taiapure, into Public Discussion Document.
June 1994	Public forum in Christchurch - Ngai Tahu and marine reserve advocates on panel.
9 July 1995	AHMPs representatives attended Onuku Runanga Meeting to explain the proposal and answer questions.
September 1995	Written sections of this Application in draft form, of particular interest to Tangata Whenua, shared with local iwi.

# Appendix 4 - Pamphlet

## Akaroa Harbour Marine Reserve



*You/your group's comments are sought on Canterbury's first proposed marine reserve:*

*The Dan Rogers area on the south-eastern side of Akaroa Harbour, from a point near the Grasshills to Gateway Point, Haylock's Bay.*

The Department of Conservation's "Survey Report for the NZ Protected Natural Areas Programme" describes this area as "extraordinary." Wood pigeons, bellbirds, fantails, brown creepers and grey warblers have been observed here also there is an "extraordinary juxtaposition of species such as beech and nikau palm."

The area covers approx. 7 kilometres of scenic coastline and is adjacent to three land reserves - Nikau Palm Gully, Dan Rogers Creek (two of Banks Peninsula's best examples of coastal forest remnants) and the Akaroa Head Scenic Reserve. A marine reserve in this area would protect a sequence of land to sea.

The Canterbury Regional Council's "Notified Regional Coastal Environment Plan" of July 1994 describes this area along with others in Akaroa Harbour, as having "significant conservation value"

Banks Peninsula is recognised as a representative marine ecological region in New Zealand. Despite water which can be clouded by silt stirred up by waves, the harbour has abundant marine life and many distinctive and diverse habitats. Marine surveys have not identified any unique species in the harbour, however the wide assemblage of species in a comparatively small area makes the harbour unique.

The spectacular 275 metre high volcanic bluff at Dan Rogers dominates the seascape. The "Long Boat", a long narrow piece of resistant lava left as a stack standing in about 20 metres of water is a distinctive feature of Akaroa Head. Below the water the underwater topography is varied including reefs of huge basalt boulders, and vertical or overhanging basalt faces are common. Red cod, sea perch, trumpeter, barracouta, kahawai, salmon and conger eels are often seen or caught.

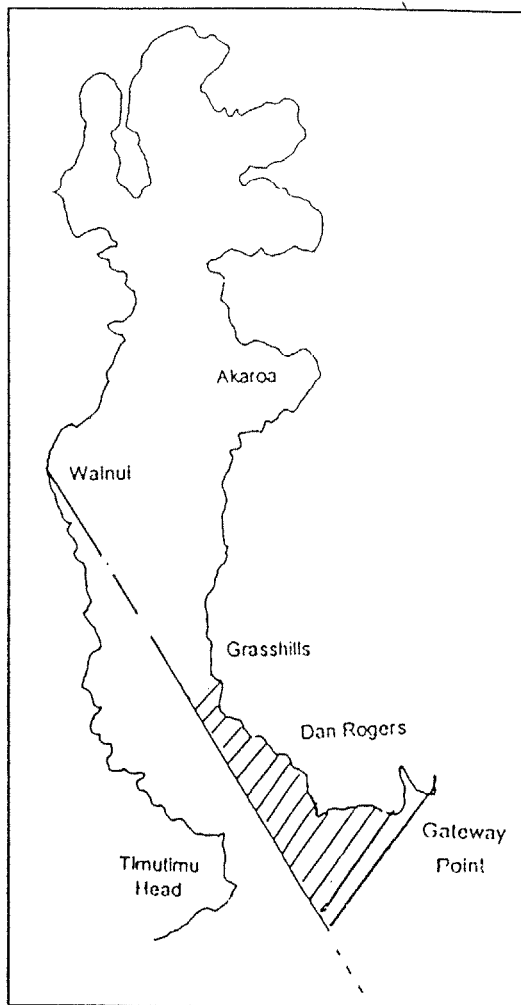
Brachiopods, a relict species of shellfish of scientific interest are found here. Mobile animals include Cooks turban shell, large spider crabs and black sea slugs, sea cucumber, and the butterfly chiton. Horse mussels, often encrusted with sponges, sea squirts, and red algae are present in the softer sediments of the seabed with tubeworms and various molluscs found deeper in the sediment. Starfish live on the sediment surface. This area is also an important feeding, breeding and roosting habitat for a variety of seabirds, including terns, gulls, little blue penguins, some yellow-eyed penguins and several hundred spotted shags. Fur seals frequently haul out here, and Hector's dolphins (the world's rarest and smallest marine dolphin) come close to shore. (Refer Akaroa Harbour Marine Habitat Survey - Summary Report 1994 (Department of Conservation))

Public access would be by boat or by steep narrow track to Haylock's Bay (Gateway Point).

Opinion raised in a Public Discussion Paper showed that of the people who supported a marine reserve, most people favoured the site that included the Dan Rogers area. Copies of the analysis are available from The Friends of Banks Peninsula, P O Box 56, Duvauchelle - cost \$10 including postage.

Your views are sought on this clarified proposal. Please address correspondence to:

- The Secretary, The Akaroa Harbour Marine Protection Society, C/- P O Box 56, Duvauchelle



# Appendix 5 – Species found in proposed Akaroa Marine Reserve

Small columnar barnacle	<i>Chaemosipho columna</i>	Large spider crabs	<i>Notomithrax</i> spp.
Larger plicate barnacle	<i>Epopella plicata</i>	Sea cucumbers	<i>Stichopis mollis</i>
Modest barnacle	<i>Elminius modestus</i>	Large black sea slugs	<i>Scutus breviculus</i>
Blue mussel	<i>Mytilus edulis aoteanus</i>	Butterfly chiton	<i>Cryptoconchus porosus</i>
Ribbed mussels	<i>Aulacomya ater maoriana</i>	Pink top shell	<i>Maurea punctulata</i>
Green mussel	<i>Perna canaliculus</i>	Large gastropod	<i>Penion sulcatus</i>
Snakeskin chiton	<i>Chiton pelliserpentis</i>	Horse mussels	<i>Atrina zelandica</i>
Limpets	<i>Cellana radians</i> , <i>Notoacmaea</i> sp. and <i>Siphonaria</i> sp.	Snake stars	<i>Ophiopsammus maculata</i>
Whelks	<i>Haustrum haustorium</i> , <i>Lepsiella scobina</i> and <i>Buccinulum lineum</i> .	Small scallop	<i>Chlamys zelandiae</i>
Catseys	<i>Turbo smaragdus</i>	Small pink brachipod	<i>Terebratella inconspicua</i>
Small spiral shells	<i>Risselopsis varia</i>	Spotty	<i>Notolabrus celidotus</i>
Spotted top shells	<i>Melagraphia aethiops</i>	Banded wrasse	<i>Notolabrus fucicola</i>
Half Crab	<i>Petrolisthes elongatus</i>	Scarlet wrasse	<i>Notolabrus miles</i>
Rock Crabs	<i>Hemigrapsus edwardsii</i>	Rockfish	<i>Taumakoides</i> sp.
Common paua	<i>Haliotis iris</i>	Blue moki	<i>Latridopsis ciliaris</i>
Yellow-foot paua	<i>Haliotis australis</i>	Butterfish	<i>Odax pullus</i>
Small virgin paua	<i>Haliotis virginea</i>	Blue cod	<i>Parapercis colias</i>
Blue tubeworm	<i>Pomatoceros caeruleus</i>	Common triplefin	<i>Forsterygion lapillum</i>
Littorinid snails	<i>Nodilittorina cincta</i> and <i>N. antipodum</i>	Variable triplefin	<i>Forsterygion varium</i>
Margin Weed	<i>Marginariella boryana</i>	Spectacled triplefin	<i>Ruanoho whero</i>
Zig zag weed	<i>Cystophora</i> spp.	Yellow black triplefin	<i>Forsterygion</i> sp.
Sea lettuce	<i>Ulva</i> sp.	Marblefish	<i>Aplodactylus arctidens</i>
Karengo	<i>Porphyra</i> sp. and <i>Ralfsia verrucosa</i>	Smooth leatherjacket	<i>Parika scaber</i>
Neptune's necklace	<i>Hormosira banksii</i>	Rock cod	<i>Lotella rhacinus</i>
Gummy weed	<i>Splanchnidium rugosum</i>	Southern pigfish	<i>Congiopodus leucopaecilus</i>
Small red algae	<i>Gigartina</i> sp.	Carpet shark	<i>Cephaloscyllium isabellum</i>
Brown algae	<i>Carpophyllum</i> , <i>Cystophora</i> , <i>Desmarestia</i> , <i>Lessonia</i> , <i>Eldonia</i> and <i>Ziphophora</i>	Whitebait	<i>Galaxias</i> spp.
Bladder kelp	<i>Macrocystis pyrifera</i>	Spiny dogfish	<i>Squalus acanthias</i>
Sea tulips	<i>Pyura pachydermatina</i>	Rough skate	<i>Raja nasuta</i>
Mussela beard	<i>Amphibetsia bispinosa</i>	Southern conger	<i>Conger muelleri</i>
Sponges		Red cod	<i>Pseudophycis bachus</i>
Sea squirts	<i>Corella eumyota</i> and <i>Pyura</i> s <i>uteri</i> , and <i>Botrylloides</i> sp and <i>Boryllus schlosseri</i>	Scorpionfish	<i>Scorpaena papillosus</i>
Sea anemones	<i>Actinotheroe albocincta</i> and <i>Isocradictus magna</i>	Barracouta	<i>Thyrstites atun</i>
Cushion stars	<i>Asterina regularis</i>	Kahawai	<i>Arripis trutta</i>
Biscuit stars	<i>Asterodon</i> sp. and <i>Pentagonaster pulchellus</i> , <i>Stegnaster inflatus</i>	Thornfish	<i>Bovichthus variegatus</i>
Reef stars	<i>Stichaster australis</i>	Kingfish	<i>Seriola grandis</i>
Cook's Turban Shell	<i>Cookia sulcata</i>	Salmon	<i>Oncorhynchus tshawytscha</i>
		Brown trout	<i>Salmo trutta</i>
		Crayfish	<i>Jasus edwardsii</i>
		Hector's dolphin	<i>Cephalorhynchus hectori</i>
		NZ Fur Seal	<i>Arctocephalus forsteri</i>
		Spotted Shag	<i>Stictocarro punctatus</i>
		White-flipped penguin	<i>Eudyptula minor</i> "albosignata"
		Yellow-eyed penguin	<i>Megadyptes antipodes</i>
		Red-billed gull	<i>Larus novaehollandiae</i>
		Black-backed gull	<i>Larus dominicanus</i>
		Black-billed gull	<i>Larus bulleri</i>

## Appendix 6 – Marine Reserves in N.Z.

There are currently thirteen marine reserves in New Zealand.

<i>They are:</i>	year gazetted	hectares
Cape Rodney - Okakari Point (Leigh) <i>Proposed by Auckland University</i>	1975	518
Poor Knights Islands <i>Proposed by former Hauraki Gulf Maritime Parks Board</i>	1981	2,410
Kermadec Islands <i>Proposed by former Department of Lands and Survey</i>	1990	748,000
Whanganui A Hei (Hahei) <i>Proposed by Department of Conservation</i>	1992	840
Tuhua (Mayor Island) <i>Proposed by Department of Conservation</i>	1992	1,060
Kapiti Island <i>Proposed by Department of Conservation</i>	1992	2,167
Long Island, (Marlborough Sounds) <i>Proposed by Marlborough Combined Divers and Aquatrust</i>	1993	619
Tonga Island (Abel Tasman National Park) <i>Proposed by Department of Conservation</i>	1993	1,835
Te Awaatu Channel ('The Gut' - Doubtful Sound) <i>Proposed by NZ Federation of Commercial Fishermen</i>	1993	93
Ploplotahi (Milford Sound) <i>Proposed by NZ Federation of Commercial Fishermen</i>	1993	690
Westhaven (Te Tai Tapu) <i>Proposed by Department of Conservation.</i>	1994	536
Motu Manawa (Pollen Island) <i>Proposed by Royal Forest &amp; Bird Protection Society</i>	1995	500
Long Bay (Okura) <i>Proposed by East Coast Bays Protection Society</i>	1995	980
<b><i>Formally proposed marine reserves:-</i></b>		
Paterson Inlet (Stewart Island) <i>Proposed by Department of Conservation</i>		1400
Kaikoura Peninsula <i>Proposed by Royal Forest and Bird Protection Society</i>		290
Nugget Point (Otago Peninsula) <i>Proposed by Department of Conservation</i>		680
Parininihi (North Taranaki) <i>Proposed by Department of Conservation</i>		2,500
Te Angiangi (South Hawkes Bay) <i>Proposed by Department of Conservation</i>		2,400

Significantly less than 1% of New Zealand's coastline is currently protected by marine reserves. However, a more useful measure of the extent of marine reservation in New Zealand is the percentage of the territorial sea (extending 12 nautical miles from the coast) currently under protection as marine reserves. At present approximately 4% is protected. This figure is heavily biased by the size of the Kermadec Islands Marine Reserve. If the Kermadec Islands are excluded, only 0.06% of the territorial sea is protected as marine reserves.

## Appendix 7 – Time Line

1990

Royal Forest & Bird Protection Soc. - Investigation of Potential Marine Reserve Sites - Expedition Dive

September - Formation of Canterbury Marine Reserves Steering Committee.

1991

May - Canterbury Marine Reserves Steering Committee unanimously agrees to promote a marine reserve at Wainui.

Marine Reserves Coalition document produced - 'Sites with Important Natural Values in Canterbury'

September - Postal survey of Wainui property holders re possible marine reserve near Wainui.

December - Public display in Akaroa Museum of marine reserve information.

1992

Consultation continues throughout 1992.

1993

May - Formation of Akaroa Harbour Marine Conservation Working Group to write discussion doc"

November - Canterbury Marine Reserve Steering Committee goes into recess.

1994

April - Publication of discussion document 'A Marine Reserve in Akaroa Harbour?'

Department of Conservation releases 'Akaroa Harbour Marine Habitat Survey - Summary Report'.

November - Analysis by Gabiles Porter of submissions on the discussion document.

1995

January - Release of pamphlet 'Akaroa Harbour Marine Reserve' describing draft proposal. (See App.4)

February - Formation of incorporated society - 'Akaroa Harbour Marine Protection Society.'

Formal application made for the Akaroa Marine Reserve.



# Acknowledgements

This document was prepared by members of the Akaroa Harbour Marine Protection Society Incorporated. Application documents for Southland Conservancy's proposed Paterson Inlet marine reserve and Auckland's Long Bay (Okura) marine reserve provided helpful guidelines and information.

Funding from the following is gratefully acknowledged: Ministry for the Environment for costs associated with the statutory process. Also the Lottery Grants Board, Trustbank Canterbury, Pacific Development and Conservation Trust and private donors for assistance with funding of the public discussion document and associated costs.

The Hydrographer of Royal New Zealand Navy granted permission to use information from Chart NZ 6324.

Contributions and assistance by Dr. Chris N. Battershill PhD. (Marine Ecologist), Hugh D. Wilson B.A., B.Sc. (Botanist), Murray J. Parsons (Marine Phycologist) and Shane Kelly (Marine Ecologist) are gratefully acknowledged.

Akaroa Museum for historical information.

Original artwork by Hugh D. Wilson and Benjamin Reid.

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