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TOWARDS SUCCESSFUL MARINE CO-MANAGEMENT IN THE SOUTH ISLAND

*How management of the Banks Peninsula marine
environment contributes to successful
co-management arrangements*

A report submitted to the Environmental Management
and Design Division, Lincoln University
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Aotearoa New Zealand

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Executive Summary

The utilisation and protection of New Zealand's marine environment is of vital importance both in an economic sense, and as a resource that is highly valued by New Zealanders, Tangata Whenua and visitors for recreational and customary fishing-considered the birthright of all New Zealanders.

The statutory framework for utilising and protecting the marine environment of the South Island has evolved dramatically over the last decade. Statutory frameworks have been developed to accommodate the needs of many resource user groups including marine conservation advocates, recreational and commercial fishers, and Tangata Whenua. These frameworks exist in the provisions for marine reserves, Taiapure-Local Fishery areas, Mataitai Reserves, conservation rahui, the Quota Management System and marine mammal sanctuaries.

Despite providing for the specific needs of resource users through these provisions, the statutory arrangements under which these provisions exist are fragmented, polarised and have resulted in time consuming and costly consultation processes between resource users. Many of the inefficiencies of these processes can be attributed to conflicts between the interpretation and objectives of the differing mechanisms available to manage the marine environment, leading to preferences of some mechanisms over others. While these mechanisms exist under varying statutory frameworks, it appears that there are a number of underlying similarities between these marine management mechanisms that suggest these mechanisms can achieve similar objectives whilst meeting the specific needs of resource users. It is the conflicts and barriers that exist towards the proposal and establishment of marine management mechanisms that is inhibiting the ability of marine management to shift towards successful co-management of the marine environment.

Because the South Island of New Zealand has recently settled Maori grievances over commercial and customary fishing rights, and has therefore recognised the role of Tangata Whenua in the management of the marine environment, it was realistic to select a case study in the South Island. The Banks Peninsula marine environment is managed under a range of marine management mechanisms that characterise marine management arrangements in the South Island. Of particular interest to this study is the process undertaken to propose and establish the Pohatu Marine Reserve at Flea Bay, within the Banks Peninsula.

The processes undertaken to propose and establish a marine reserve, and the issues related to marine management in general, are identified in this case study. Analysed against criteria for successful co-management, the Pohatu Marine Reserve and the marine management arrangements in the Banks Peninsula area provide an insight into how the statutory framework for marine management is implemented, and the barriers that exist to successful co-management. From the analysis, the following options and recommendations have been identified to improve the statutory framework for marine management in the South Island, with a view to achieving successful marine co-management arrangements.

Two particular options are provided for further consideration by central govt.

Option Three

Incorporate the principles of the Marine Reserves Act 1971 into the Fisheries Act 1996

- ✦ Remove the existing Marine Reserves Act 1971, and integrate a clear legal definition for marine reserves, their principles and conservation purpose into the Fisheries Act 1996 as an alternative or complementary to Taiapure-Local Fishery
- ✦ Identify within the Fisheries Act that the conservation aspect of the “sustainable utilisation” definition is met by providing for marine reserves.
- ✦ Suggest that in conjunction within Taiapure-Local Fishery areas, that areas may be set aside for marine reserve status
- ✦ Provide financial support for marine reserve management committees
- ✦ The current frameworks for marine reserve management committees are retained

Option Four

Remove the statutory requirements for Marine Reserves, Mataitai Reserves, and Taiapure-Local Fishery in favour of a statutory framework for co-management

- ✦ Dissolve the Marine Reserve Act 1971
- ✦ Remove the provisions for Mataitai, Taiapure-Local Fishery and conservation rahui from existing marine management legislation.
- ✦ Develop a statutory framework that makes the range of tools implicit within Mataitai, Taiapure, Marine Reserves and rahui available to resource users based on the principle of “sustainable utilisation of marine and fisheries resources as identified in the Fisheries Act 1996.
- ✦ Establish a framework for marine co-management based on marine management boards/advisory committees that exist under current legislation to form the basis for marine co-management in the South Island.
- ✦ Incorporate the partnerships between Ministry of Fisheries, Department of Conservation and TRONT as the key agencies involved in educating applicants about marine co-management arrangements.
- ✦ Allow the community to identify their specific needs, and develop a statutory framework for allowing community-based marine management strategies to be established.

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List of Acronyms

AHMCWG	Akaroa Harbour Marine Conservation Working Group
AHMPS	Akaroa Harbour Marine Protection Society (Incorporated)
AHRFC	Akaroa Harbour Recreational Fishers Club (Incorporated)
BPPF	Banks Peninsula Fisheries Plan
BPPWG	Banks Peninsula Fisheries Working Group
CRMFA	Canterbury Recreational Marine Fishers Association (Inc.)
DoC	Department of Conservation
DGC	Director General of conservation
EEZ	Exclusive Economic Zone
FoBP	Friends of Banks Peninsula
MfE	Ministry for the Environment
MFish	Ministry of Fisheries
MMD	Ministry for Maori Development/ Te Puni Kokiri
MMS	Marine Mammal Sanctuary
MMPA	Marine Mammals Protection Act 1978
MSY	Maximum Sustainable Yield
NTDC	Ngai Tahu Development Corporation
NTNG	Ngai Tahu Negotiating Group
QMS	Quota Management System
RMA	Resource Management Act 1991
SICFR	South Island Customary Fisheries Regulations
SNAG	Set Net Action Group
TAC	Total Allowable Catch
TOW	Treaty of Waitangi (1840)
TOW(FC)SA 1992	Treaty of Waitangi (Fisheries Claims) Settlement Act 1992
TRONT	Te Runanga o Ngai Tahu

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Chapter One

Introduction

1.1 Research scope

The last 30 years have seen an increased global awareness of the finite nature of the earth's resources (WCED, 1987). In response, nations have formulated environmental policies recognising that the earth's "commons" including the marine environment need to be more effectively managed. One such effort is the emergence of the concept of 'sustainability'. The Brundtland Report suggests that sustainability involves placing limits on the use and development of natural resources, for the purpose of preserving them for future generations (WCED, 1987).

In New Zealand, achieving sustainable management of the marine environment has, until now, generally focussed on the sustainable utilisation of fisheries resources. Despite this, public support for the sustainable management of the marine environment to accommodate the needs of local resource users and for future users has been gathering. In response to this groundswell of support generated from the community, central government is advocating the devolution of marine management to local resource users through co-management arrangements.

Local management arrangements have become statutory requirements through various marine and fisheries management mechanisms enacted within marine legislation over the last decade. Despite the popularity of marine management mechanisms such as marine reserves, Mataitai reserves and Taiapure, conflicts between these exist. These conflicts are based on concerns that

the particular needs of resource users may not be catered for within certain mechanisms. What appears to be ironic is that these mechanisms are generally in pursuit of the same goal—the sustainable management of the marine environment, whilst providing for the needs of resource users. The preconceived perceptions, ‘labels’, lack of information and understanding of the purpose and benefits towards these mechanisms may be inhibiting progress towards effective co-management of the marine environment.

Local management arrangements are being provided for as the Crown acknowledges the demands of resource users through statutory frameworks for the marine environment. While the Crown is responsible for the statutory frameworks, the progression towards successful co-management arrangements is reliant on the acceptance and willingness, compromise, and partnerships between resource users and the Crown. In order to achieve this, the barriers that exist within and between the marine management mechanisms must be alleviated.

The Banks Peninsula marine environment, on the East Coast of the South Island is a particularly important resource for many South Islanders. This is evident in the marine activities that characterise the area. Recently, the range of marine management mechanisms proposed and established have generated significant discussion and conflict amongst resource use groups. It is the purpose of this research study to identify how the barriers to successful co-management arrangements in the South Island may be improved. This particular study is focussed on the process for establishing the Pohatu Marine Reserve at Flea Bay and its contribution to achieving successful co-management within the Banks Peninsula marine environment as a view to improving marine co-management throughout the South Island.

1.2 Overall aim and objectives

Based on the above, the overall aim of this research study is:

From the strengths and weaknesses in the establishment of a co-management arrangement for the Pohatu Marine Reserve and Banks Peninsula marine environment, develop options and recommendations for how successful co-management of the South Island may be achieved.

By fulfilling this aim, it is intended that the range of options and recommendations based on the Pohatu Marine Reserve and the management of the Banks Peninsula marine environment will contribute to a template for the sustainable co-management of the marine environment applicable throughout the South Island. This template is based on the recommendations to central government for an improved co-management framework for the Banks Peninsula marine environment. In addition, these options and recommendations could provide a template for a similar framework for the North Island, taking into consideration the North Island Customary Fisheries Regulations¹. It is hoped that the options and recommendations can identify the first steps towards achieving a marine management framework for New Zealand. The options and recommendations identified are directed towards central government based on their responsibility for providing leadership and direction for the management of New Zealand's marine environment.

¹ The SICFR provided a template for the North Island regulations, and therefore the necessary changes of the North Island Regulations would be required to implement any template based on South Island regulations.

In order to initiate this direction, a case study was required that could be evaluated as a successful co-management arrangement and whether it could contribute to co-management of the marine environment. It was important that the case study should reflect the complexities of marine management, issues related to proposing and establishing marine management mechanisms, identifies the range of stakeholders and their perceptions towards the use of different marine management mechanisms. To achieve the overall aim and provide options and recommendations for improving marine management in the future, a number of specific research objectives were identified, these include:

- ✦ Describe the current institutional framework and arrangements for sustainable management of the marine environment of the South Island, and specifically identify and discuss the use of the Taiapure-Local Fishery, Mataitai Reserves, rahui and marine reserves as tools to achieve this.
- ✦ Define the arrangements that exist under the umbrella of co-management and identify how co-management can be considered a method of achieving sustainable marine management.
- ✦ Distinguish a set of key criteria for evaluating a successful co-management arrangement.
- ✦ Provide a history of the marine management mechanisms proposed and implemented in the Banks Peninsula marine area and identify their impact on the establishment of the Pohatu Marine Reserve.
- ✦ Evaluate the Pohatu Marine Reserve against the criteria for a successful co-management arrangement.

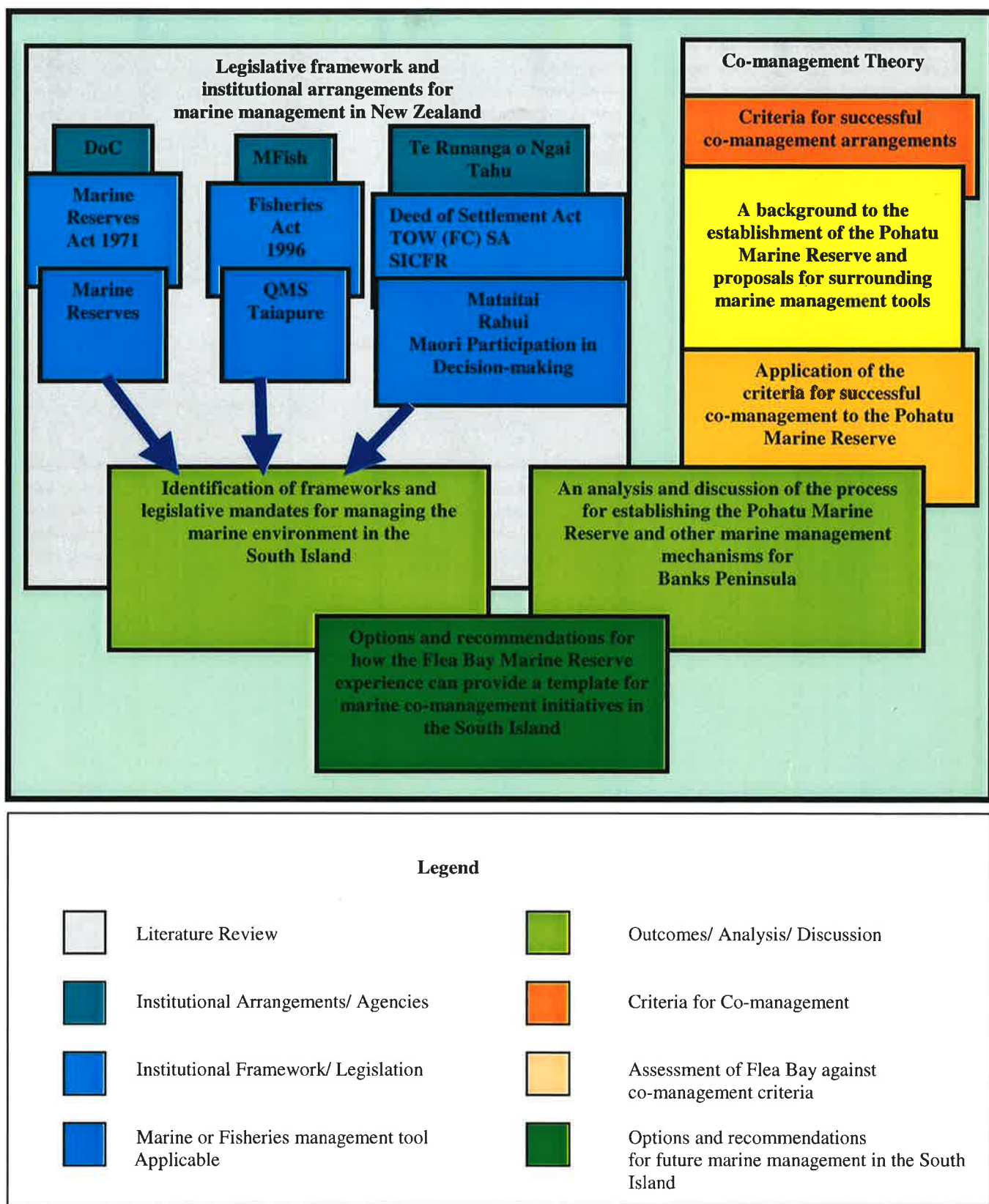
- ✦ Develop options and recommendations for how successful marine co-management in the South Island could be achieved.

1.3 Research methodology

To achieve these objectives, a research methodology was designed. The steps in the research process are represented in Figure One and include:

- 1) Scope literature to describe the specific institutional arrangements for marine management in the South Island, with an emphasis on the range of marine management tools available to contribute to sustainable marine management.
- 2) Scope literature on the range of co-management arrangements available for marine management.
- 3) From characteristics for successful co-management arrangements, distinguish key criteria to identify and define a successful co-management arrangement.
- 4) Evaluate the process undertaken for establishing the Pohatu Marine Reserve and the impact of other marine management mechanisms in the Banks Peninsula marine environment against the criteria for successful co-management.

Figure One: The Research Process



- 5) Identify the strengths and weaknesses apparent from the Pohatu Marine Reserve case study and the Banks Peninsula marine environment to discuss how successful marine co-management may be achieved in the South Island.
- 6) Through options and recommendations, identify how experiences drawn from the Banks Peninsula marine environment can contribute to facilitating successful marine co-management in the South Island.

1.4 Research methods

To achieve the research objectives, literature was reviewed from a variety of sources. The literature review provided an understanding of how sustainable management is interpreted in the context of marine management. International and national literature was also sought for the identification of criteria for successful co-management, and the recognition of the varying management arrangements under the umbrella of co-management. These criteria were considered important attributes within the establishment of marine management mechanisms to be an effective vehicle for achieving co-management.

For information regarding the Pohatu Marine Reserve, a number of stakeholders were consulted. These included the Ngai Tahu Development Corporation, the Department of Conservation, and the Ministry of Fisheries. The literature search also included an internet search on the Ministry of Fisheries, Te Runanga o Ngai Tahu (TRONT), and the Auckland University Environmental and Marine Sciences Division websites and library searches. NIWA, the Auckland University Leigh Marine Reserve staff, and the Ministry of Research, Science, and Technology were also approached for relevant information. Piripi Grimshaw and Nigel Scott of the Customary

Fisheries Team at Te Runanga o Ngai Tahu and Martin Rutledge from the Department of Conservation also made documentary information available.

To assess the case study against the criteria developed, primary research was undertaken to identify the perspectives of relevant stakeholders. This field research included semi-structured questioning directed at a range of representatives involved in the establishment of the Pohatu Marine Reserve and other marine management mechanisms in the Banks Peninsula. These perspectives provided an insight into the issues that exist within the framework for managing the marine environment.

The field research and analysis of the marine reserve process from the researcher's perspective provide the basis for identifying the contribution of Pohatu Marine Reserve towards successful marine co-management. Issues identified within this process indicate areas for future direction in the pursuit of successful marine co-management for the South Island, especially in relation to the tools utilised to achieve this.

1.5 Assumptions and limitations

This research project encountered a number of assumptions and limitations. The assumptions of this research include the following:

- ✦ Successful co-management arrangements are considered a method for achieving sustainable management of the marine environment.

- ✘ The criteria identified for defining a successful co-management arrangement are sufficient.
- ✘ The establishment and management of the Pohatu Marine Reserve provides an appropriate example of a successful co-management arrangement.
- ✘ Co-management as it is defined here is acceptable to the Crown
- ✘ The devolution of marine management to local resource users through co-management arrangements is acceptable to central government.

The limitations of this research include the following:

- ✘ Time constraints limited the depth of research and number of interviews undertaken.
- ✘ Not all perspectives could be given the required attention or support to provide a fully comprehensive and unbiased identification of the resource management issue.
- ✘ The researcher is a New Zealand European of Scottish and Scandinavian descent and as such is not Tangata Whenua in a Maori tribal sense. The researcher has endeavoured to understand and interpret the Maori conservation ethic and the issues associated with customary fishing rights, and rangatiratanga. Because of the researcher's background, these interpretations must be considered limited in terms of the analysis of the Tangata Whenua perspective.

- ✦ The scope of the research only allowed for the discussion of selected marine management statutes and marine management mechanisms

1.6 Report structure

Chapter Two addresses the institutional arrangements for marine management in New Zealand. Among others, these arrangements include, the South Island Customary Fisheries Regulations 1998, the Fisheries Act 1996, the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, and the Marine Reserves Act 1971.

Chapter Three introduces literature on co-management theory, including a definition and identification of co-management arrangements available for marine management. This chapter identifies key characteristics for successful co-management, from which key criteria for evaluating successful co-management arrangements are yielded.

Chapter Four provides a history of the Banks Peninsula, its marine environment and the marine management mechanisms that have been proposed and implemented within it. This includes a description and background to the establishment of the Pohatu Marine Reserve.

Chapter Five evaluates the establishment of the Pohatu Marine Reserve against the criteria for successful co-management. Chapter Five concludes with an identification of barriers inhibiting progress towards co-management of the marine environment. In addition, this chapter identifies experiences gained from the management of the Banks Peninsula marine environment that may contribute to redirecting the statutory framework towards successful marine co-management arrangements for the South Island.

Finally, *Chapter Six* progresses onward from the issues identified in Chapter Five and produces options and recommendations for setting a direction for central government that can facilitate marine co-management arrangements for the South Island.

Chapter Two

The institutional arrangements for marine management in the South Island

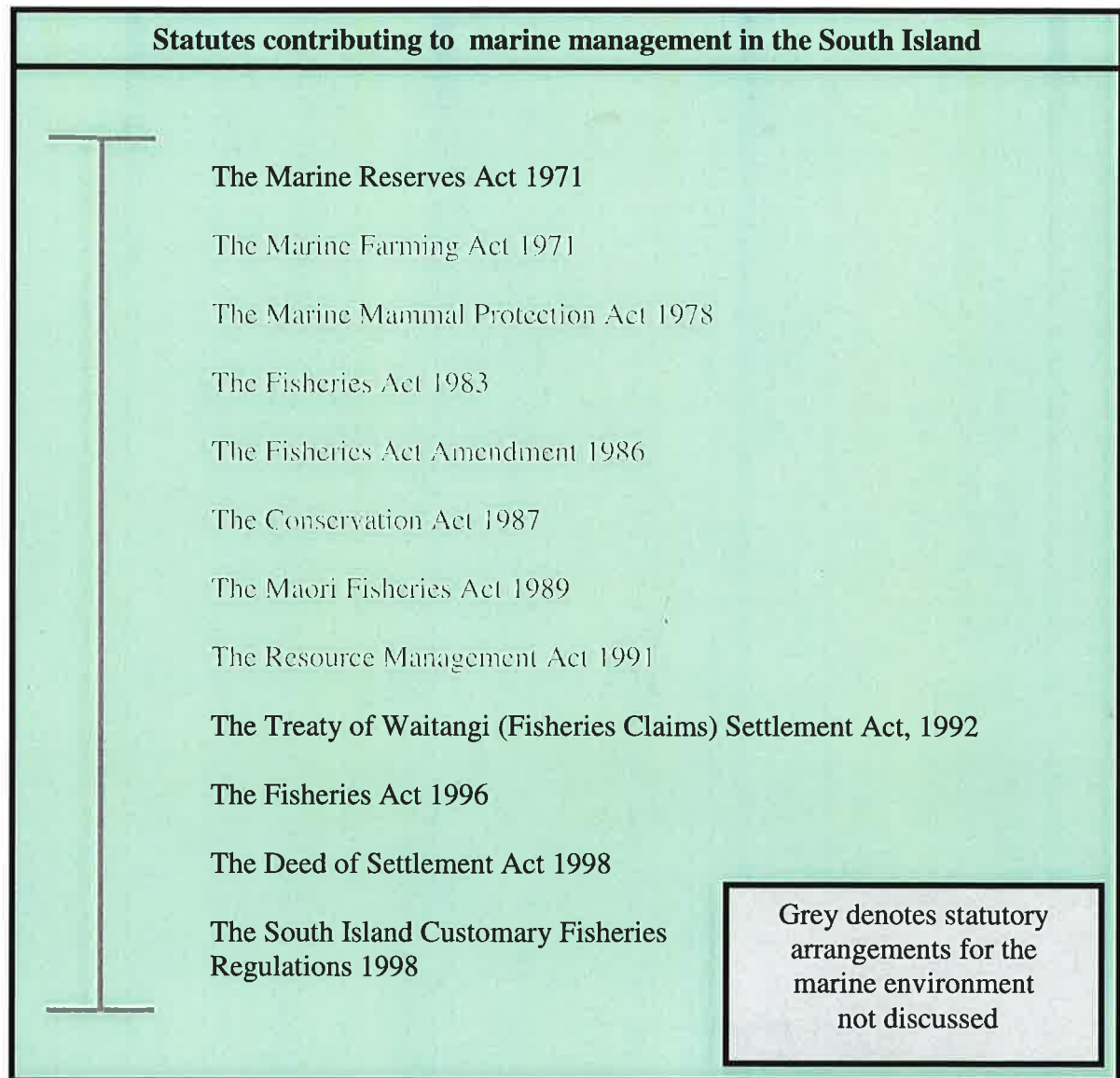
2.1 Introduction

The purpose of this chapter is to identify the institutional arrangements that govern marine management in the South Island. These statutes include:

- ✦ The Marine Reserves Act 1971
- ✦ The Treaty of Waitangi (Fisheries Claims) Settlement Act, 1992
- ✦ The Fisheries Act 1996
- ✦ The Deed of Settlement Act 1998, and
- ✦ The South Island Customary Fisheries Regulations 1998

While the above are considered the most relevant statutes for marine management in the South Island, it is acknowledged that other statutes have an impact on the management of the marine environment. The Resource Management Act 1991, is particularly relevant in terms of coastal management through the Regional and National Coastal Policy Statements. However, the limited scope of the research study does not allow for the consideration of the RMA or other statutes affecting marine management. Figure Two defines statutory arrangements that impact on marine management in the South Island, including those not discussed here.

Figure Two: Statutes contributing to marine management in the South Island



Specific agencies are responsible for implementing the particular pieces of legislation identified above. Within these statutes, a range of mechanisms are available for managing the marine environment. The following mechanisms exist in the statutes identified above:

- ✦ The Quota Management System (QMS)
- ✦ Marine reserves
- ✦ Taiapure-Local Fishery

- ✦ Mataitai, and
- ✦ rahui.

By clarifying how these statutes originated and which mechanisms operate under these, this discussion identifies similarities and differences that exist between the marine management mechanisms available. By identifying consistencies of purpose among these mechanisms, it is argued that these mechanisms may operate in unison to facilitate successful co-management that contributes to sustainable marine management.

2.2 The Marine Reserves Act 1971

Statutory basis for marine reserves

Marine reserves legislation was enacted in response to a marine reserve proposal by the Auckland University Marine Sciences Division in 1965. That particular proposal was initially rejected on the grounds of insufficient existing or relevant legislation, no apparent reason to promote such legislation, and the existence of more pressing issues in Parliament (Ballantine, 1991). Consistent lobbying pressured the Marine Department into producing New Zealand's first marine reserve legislation (Aldridge et al, 1998). The legislation was very narrow and envisaged 'scientific reserves' as the only 'type' of marine reserve. The Marine Reserves Act 1971 was finally passed to allow for marine reserves to be established. The Act was tailored specifically for the purpose it was required for by the applicants, that being a scientific reserve.

The purpose of the Marine Reserves Act is for:

“...preserving, as marine reserves for 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...”

(Marine Reserves Act 1971)

This mandate has been supported on a global scale by international organisations that suggest that all coastal nations establish marine protected area networks (DoC, 1994). In addition to this, New Zealand’s ratification to the Convention on Biological Diversity, which came into force in 1993, binds New Zealand to international law relating to the protection and management of the marine and coastal environments (DoC, 1994).

Management and interpretation of the Marine Reserves Act 1971

Three government agencies have been involved in managing the process of proposing and establishing marine reserves since the enactment of the Act in 1971 (DoC, 1994). Initially, the Marine Department administered the legislation. However, from 1972 to the mid 1980’s, the Ministry of Agriculture and Fisheries held responsibility for the Act and developed marine protected areas policy and identified potential marine protected area sites (DoC, 1994).

With the enactment of the Conservation Act in 1987, the newly formed Department of Conservation (DoC) became the administering agency for the Marine Reserves Act (DoC, 1994). Since that time, DoC have endeavoured to establish a marine reserves network around New Zealand to protect representative and special areas of the coastal and marine environment (DoC,

1994a). DoC considered that a network of marine reserves around New Zealand would be the most systematic method of protecting marine areas of national importance and preserving marine diversity and New Zealand's natural heritage (DoC, 1994a).

Benefits of marine reserve legislation

DoC believes that the benefits of conserving portions of the coastal and marine environment through marine reserves may provide areas for spawning and recruitment, spillover effects into surrounding marine areas, larval exports, maintenance and protection of genetic and population biodiversity and increased fish sizes (Rowley, 1994). A selection of the most widely acknowledged functions and benefits of marine reserves are outlined in Figure Three.

Figure Three demonstrates that a variety of functions and benefits are provided by marine reserves for New Zealand's coastal and marine environment. These functions may have particular benefit to improving the overall sustainability of fisheries management within the marine environment. As such, marine reserves may be able to contribute significantly to the status and quality of fisheries resources, which in turn, could contribute to more sustainable management of the marine environment.

Based on the information in Figure Three, Figure Four offers a summary of the activities permitted and prohibited within marine reserves as defined in the Marine Reserves Act 1971. The Act itself has been considered inappropriate by some due to its age and lack of consistency with current marine management statutes. This has been due to its narrow scientific focus, and definition of terms such as 'unique', and the apparent failure to provide legal reasons for protecting the marine environment (Aldridge et al, 1998). This may be as a result of the political

pressure and haste under which marine reserve legislation was created and can be considered a limitation of marine management legislation (Aldridge et al, 1998).

Figure Three: Functions and benefits of marine reserves as a marine management mechanism (Adapted from Aldridge et al, 1998).

Functions and benefits of marine reserves as a marine management mechanism
<p><i>An insurance policy-precautionary approach</i></p> <ul style="list-style-type: none">✘ A great deal of uncertainty is related to the functioning, population dynamics, impacts of fishing, the success of fisheries management practices, and the impact of marine activities on species and ecosystems.✘ Options need to be left 'open' in the event that current fisheries management practice is inadequate. Safeguarding ourselves by setting aside marine areas can provide insurance against making irreversible mistakes against unforeseen circumstances.✘ Marine reserves may provide an insurance policy by providing an insight into what marine management practices may be doing to unprotected areas.
<p><i>Providing baseline information and scientific research</i></p> <ul style="list-style-type: none">✘ Reserves may provide baseline data to show what effect fishing practices have on non-reserve areas.✘ Marine reserves also provide opportunities for research on species abundance and behaviour that is not effected by human behaviour, as non-reserve areas would be. This could provide for improved fisheries management or for other non-fisheries research.✘ The effects of more acute environmental impacts such as climate change or pollution can be separated from the effects attributed to fishing or other human development to allow a clearer picture of what is happening (DoC, 1994).
<p><i>Maintenance for future generations</i></p> <ul style="list-style-type: none">✘ The need to safeguard natural resources for future generations is recognised globally by the Convention on Biological Diversity to which New Zealand is ratified, and nationally through the Resource Management Act 1991.✘ The concept of sustainability was first coined by the Brundtland Report 1987. It suggests humans should be better protecting the environment to achieve this. It is becoming more widely accepted to recognise humans developing stewardship, rather than dominion of the environment, and enable future generations to have the opportunity to experience and use the environment. The protection of areas of the marine environment through mechanisms such as marine reserves is consistent with this idea.

Functions and benefits provided of marine reserves as a marine management mechanism

Recognition of intrinsic values

- ✘ Recognition of intrinsic values is becoming more prevalent in legislation and policy. Under Section 7-Other Matters of the RMA 1991 (d) which are defined as: *in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including (a) their biological and genetic diversity; and (b) The essential characteristics that determine an ecosystem's integrity, form, function, and resilience*
- ✘ Marine reserves may offer one method of protection for the values described above in the marine environment

Recreational and tourism opportunities

- ✘ Marine reserves provide swimming, snorkelling, diving, and photography opportunities for visitors and allows the observation of marine life in a largely undisturbed manner (no fishing or development disturbances)
- ✘ Having access to highly diverse and plentiful marine areas may enhance the clean green image/perception that marketers of the New Zealand experience have created and focussed on
- ✘ If a network of marine reserves existed, these could provide and enhance New Zealand as a tourist destination and the economic benefits that can be derived from these

Education opportunities

- ✘ Marine reserves offer exciting opportunities for imparting information on marine and environmental science to all New Zealanders
- ✘ This may manifest into developing a greater appreciation of the coastal and marine environments, and promote greater awareness of issues related to managing this resource sustainably
- ✘ Practical education, such as learning about marine reserves by visiting them, can be more effective than learning through watching television or reading

Conservation, preservation and restoration

- ✘ New Zealand has been renowned world wide for its terrestrial conservation efforts with National Parks and World Heritage Areas. A marine reserve network could be considered a further extension of New Zealand's commitment to conserve and protect natural and physical resources
- ✘ Marine reserves offer a means for protecting genetic through to ecosystem
- ✘ Biodiversity, and offer safeguarding of such diversity from extractive activities

Figure Four: A summary of permitted and prohibited activities within marine reserves (Adapted from Aldridge et al, 1998)

Permitted and prohibited activities within marine reserves	
Permitted Activities	Prohibited Activities
Public access Navigation Anchoring (in emergency only) Exploration, prospecting and extraction of minerals Hydrocarbon prospecting and extraction (subject to Ministerial approval) Provisions for customary and recreational fishing	Discharge Sand and shingle extraction Anchoring (in emergency only) Harbour works and structures (subject to Public works Ministerial approval) Disruption, introduction or taking of marine species Commercial fishing and marine farming

More recently, and as is evident in the range of permitted activities identified above, the purpose of marine reserves can be considered more than providing a purely scientific function. Many of the functions, benefits, prohibited activities, and the limitations associated with the permitted activities suggest that marine reserves have a strong conservation objective. Because of the conservation mandate of the Department of Conservation, marine reserves have potential to assist in improve the understanding of fisheries ecosystems and fisheries resources within the marine environment.

The conservation mandate of marine reserves

The Department of Conservation plays an important role in the application process, facilitating the management, and monitoring of the ecological state of marine reserves (Rutledge, 1999 pers. comm.). Because marine reserves are managed by the Department of Conservation and can have a strong non-extractive principle, they are considered a marine conservation mechanism. Marine

reserves are consistent with terrestrial conservation mechanisms such as National Parks and World Heritage Areas (Rutledge, 1999pers. comm.). Despite the similarities between these conservation mechanisms, it is common amongst conservation advocates to quote the vast difference in the percentage of the marine environment conserved compared to the terrestrial environment.

According to the Minister of Conservation, New Zealand has set aside 30 percent of New Zealand land as areas of conservation while less than 0.1 percent of New Zealand's 15,000 km coastline is protected under a conservation mechanism (DoC, 1994)². This suggests a significant imbalance between terrestrial and marine conservation. In addition, reserves on land have been widely accepted and supported for over 100 years, whereas the concept of reserving areas of the marine environment to be protected from fishing and other human impacts is only a recent phenomenon (Aldridge et al, 1998). The addition of further marine reserves within the New Zealand Exclusive Economic Zone (EEZ) is welcomed by many in response to this imbalance.

Marine reserve conflicts

Despite some of the benefits of marine reserves, they have been seen by many to be contradictory to fish harvesting and other marine management interests. This may be because the initial Marine Reserves Act was strictly non-extractive. Since 1971, this restriction has been broadened to allow provisions for recreational or customary fishing (at the discretion of the Minister).

Despite this alteration, a general perception still exists that marine reserves adversely affect local fishing practices (Aldridge et al, 1998). While marine reserves may be perceived to contradict

² This percentage becomes even less when the extent of New Zealand's Exclusive Economic Zone- the 200 nautical mile limit, is taken into consideration.

fishing/harvesting interests, evidence suggests that marine reserves may actually have complementary functions and enhance fisheries management rather than compete with harvesting interests. Marine reserves may offer the opportunity to:

- ✦ Assess the effectiveness of fisheries management techniques by testing them in a controlled environment
- ✦ Provide areas for spawning and recruitment
- ✦ Provide other factors for assisting fisheries management including:
 - ✦ Spillover effects;
 - ✦ Larval exports;
 - ✦ Maintain genetic and population diversity;
 - ✦ Increase fishing sizes; and
 - ✦ Provide buffering against recruitment failure (Rowley, 1994).

While much of this evidence is anecdotal, scientific research to assess the validity of these claims is now being considered far more seriously. Such evidence may provide the necessary scientific information to educate opposers of marine reserves.

Marine reserves as a marine management mechanism

The conservation principle of marine reserves may make a significant contribution to marine management. Various types of marine reserves and a multitude of uses could be advocated alongside other marine management practices. (Aldridge et al, 1998). This may alleviate concerns related to marine reserve proposals that currently fail to meet and generate conflicts based on the narrow, scientific focus of marine reserve legislation, or provide for recreational or

customary fishing (Aldridge et al, 1998). By improving the flexibility of the marine reserve legislation through review and amendment or integrating into existing marine management legislation, a broader range of functions and benefits of marine reserves may be progressively recognised.

Until most recently, the Department of Conservation has considered the purpose of the Marine Reserves Act 1971 as the foremost mechanism to conserve marine environments. However, it appears that marine management legislation has broadened the range of mechanisms available to include Taiapure-Local Fishery, Mataitai, and rahui, which may be able to offer the same or similar outcomes as marine reserves.

2.3 The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992

Background

The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 is an important statute that separates the commercial fishing interests of Maori from customary interests. This particular act provided an important basis for understanding the role of Maori in commercial fishing, and initiates the first steps towards recognising marine conservation mechanisms of Maori.

The Fisheries Act 1983 was passed with the aim of improving the management and conservation of fisheries in New Zealand through the economically innovative and radically different ITQ system (Memon and Cullen, 1996). During the consultation and negotiation of the proposed reforms with organisations representing the fisheries industry, the government appeared not to consult with Tangata Whenua (Memon and Cullen, 1996). The Fisheries Act 1983 stated that

'nothing in this Act shall affect any Maori fishing right' (MMD, 1993). There was general agreement by Tangata Whenua that they had not surrendered the fisheries guaranteed to them under Article 2 of the Treaty of Waitangi (TOW) (Memon and Cullen, 1996). Therefore the introduction of the Quota Management System (QMS) compromised that ability of Maori to participate in the commercial fishing industry and manifested into a disproportionate impact on Maori fishing operations (MMD, 1993 Memon and Cullen, 1996).

While Tangata Whenua agreed with the fisheries conservation function of the QMS, it was considered that the allocation of individual transferable quota was expropriating a property right from Maori and permanently giving it to someone else (MMD, 1993). The findings and recommendations from the Waitangi Tribunal favoured Tangata Whenua. The Tribunal recommended that "fisheries were guaranteed to Maori in the same way as land, and the Crown was required under the Treaty (TOW) to negotiate for a right of commercial use" (Memon and Cullen, 1996:257). The Tribunal recommended bicultural negotiations to resolve the matters of resource allocation (Memon and Cullen, 1996). The first milestone of this rehabilitation of indigenous commercial fishing rights was achieved with the enactment of the Maori Fisheries Act 1989 (Memon and Cullen, 1996).

The Maori Fisheries Act 1989

The Maori Fisheries Act 1989 was established to secure an honourable Treaty settlement for commercial fishing claims (MMD, 1993). The Act came under the responsibility of the Ministry of Fisheries. An interim settlement for the grievances identified above was accepted and the Act aimed to make better provision for the recognition of Maori commercial fishing rights secured under the Treaty of Waitangi (MMD, 1993). The Maori Fisheries Commission and Aotearoa Fisheries Limited were established (Annala, 1996). The Maori Fisheries Commission was

allocated 10% of all Total Allowable Catches for the benefits of Maori (Hawkey, 1994). In addition, the Act allowed for areas of estuarine or littoral coastal waters to be declared Taiapure-Local Fisheries discussed below.

The final settlement

The negotiations between the Crown and Maori over commercial fishing issues culminated in 1992. The Crown agreed to fund a 50/50 joint venture with Brierley Investments Limited to purchase the Sealord fisheries company (referred to as the Sealord Deal) which would be managed under Aotearoa Fisheries Limited. In addition, a transfer of 20% of the share of all new species added to the QMS would be given to Tangata Whenua. In return, negotiators and signatory iwi repealed Maori fishing rights recognised in law and all Treaty of Waitangi claims related to commercial fishing (Memon and Cullen, 1996).

Maori fishing interests, as they relate to the customary management of their fisheries, have recently been given a degree of recognition in the Fisheries Act 1996 and the TOW(FC)SA 1992 (Ririnui and Memon, 1997). The first guaranteed rights of Maori to customary fisheries were also identified. It was agreed between Tangata Whenua and the Crown that customary non-commercial rights should be upheld and would continue to be considered by the Waitangi Tribunal (Aldridge et al, 1998). Under this Act, the Minister of Fisheries would be required to:

- ✱ Consult with Tangata Whenua about, and
- ✱ develop policies to help recognise use and management practices of Maori in the exercise of non-commercial fishing rights (Ministry for Maori Development, 1993).

The TOW (FC) SA 1992 provided for the full settlement of all Maori claims in respect to commercial fishing, and facilitated discussion of non-commercial customary food gathering interests, and the protection by kaitiaki of places of customary food gathering importance. Provision for Mataitai reserves is a feature of the TOW (FC) SA 1992.

Provision for Mataitai Reserves

Under the TOW (FC) SA 1992, each local iwi has the right to establish Mataitai Reserves (Feldman, 1998). The process for proposing and establishing Mataitai reserves is outlined in Appendix 1. Mataitai reserves are defined as areas of traditional importance to indigenous fishers, where Tangata Whenua are authorised to manage and control the non-commercial harvest of seafood (MFish, 1998c).

Mataitai only apply to seafood harvested for non-commercial purposes and areas of importance for customary food gathering (MAF, 1993). Mataitai provisions allow for the appointment of Kaitiaki/Tangata Tiaki by Tangata Whenua (MAF, 1993). Kaitiaki are responsible for managing customary food gathering in accordance with sustainable management practices in their area, and for issuing customary food authorisations (permits) (MAF, 1993a). Each Mataitai is managed by an iwi nominated management committee that is appointed by the Ministry of Fisheries (MAF, 1993a). The committee has the power to make bylaws for controlling the harvest of kaimoana for non-commercial purposes (MAF, 1993a).

Only Tangata Whenua are able to apply for Mataitai, and any site that is proposed must be of special significance to Tangata Whenua and an identified traditional fishing ground of appropriate size to enable effective local management (MAF, 1993a). The proposal must also not

unreasonably affect the ability of the local community to take fish (non-commercially) or prevent commercial interests from catching their legally entitled quota (Feldman, 1998).

Provision for Taiapure and rahui

The term Taiapure is derived from “tai” coastal and “apure” a patch of or circumscribed area (Cassidy, 1992, MFC, 1990:10). Taiapure are local fishery areas that are of special significance to hapu or iwi (Cassidy, 1992). Where Taiapure are established, advisory committees are formed to promote the concerns of hapu and iwi about the use and wellbeing of the fisheries (MMD, 1993). Taiapure advisory committees advise the Minister of Fisheries on the most appropriate regulations for the sustainable management of fisheries resources within the Taiapure-Local Fishery area (MAF, 1993). The overarching purpose of Taiapure is to allow local Maori to recommend regulations for the management of fisheries in estuarine or littoral waters (MMD, 1993). The process for establishing a Taiapure is outlined in Appendix 2.

Taiapure are restricted to littoral coastal and estuarine waters, unlike Maitaitai Reserves which apply to all fish managed under the Fisheries Act 1996, and can be established in any of New Zealand’s waters (excluding freshwater) (MFish, 1998c). Taiapure provide for the protection of spiritual associations with people or marine species, which are not used for food. Taiapure may apply to both commercial and non-commercial activities (MAF, 1993). In addition, “Taiapure legislation within Maori the Fisheries Act 1989 can establish committees that are legal guardians of traditional rahui areas” (MFC, 1990:9). Therefore, the TOW (FC) SA 1992 provided the foundation for the South Island Fisheries Regulations that were consistent with the Ngai Tahu Treaty Settlement (Deed of Settlement) 1998. The South Island Customary Fisheries Regulations, and their provisions are identified after a discussion of New Zealand’s principle fisheries legislation, the Fisheries Act 1996.

2.4 The Fisheries Act 1996

The Fisheries Act 1996 is New Zealand's principle fisheries legislation. Its purpose is to "...provide for the utilisation of fisheries while ensuring sustainability" (Fisheries Act, 1996, MFish, 1998a, 1998b). The Ministry of Fisheries (hereafter MFish) is responsible for the sustainable utilisation of fisheries (MFish, 1996). "Sustainable utilisation" is defined as conserving, using, enhancing and developing fisheries resources to enable people to provide for their social, economic and cultural well being (MFish, 1996a).

"Ensuring sustainability" is defined in respect of both the fisheries resources and the marine environment in which those resources reside. It means:

- ✦ Maintaining the potential of the fisheries resources to meet the foreseeable needs of future generations; and
- ✦ Avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment (Clarke and Clough, 1998:6).

Therefore, the Fisheries Act commits the Ministry of Fisheries to managing the marine ecosystem in its entirety as opposed to single species management under the QMS. The Fisheries Act is a product of reviewing previous fisheries legislation including the Fisheries Act 1983, the Fisheries Act Amendment 1986, and the Maori Fisheries Act 1989. The 1996 Act is considered by many to be a response to the mixed performance of the past regulatory controls (Annala, 1996).

The Fisheries Act 1996 provides for a greater range of mechanisms in addition to the Quota Management System (QMS) which was first introduced in earlier fisheries legislation, the Fisheries Act 1983. Into the 1996 Act was incorporated mechanisms such as Maitaitai, Taiapure and ultimately, co-management arrangements. These mechanisms for improving fisheries management are considered a progression forwards from the initial reliance on the QMS to achieve sustainable management of fisheries resources towards a more ecosystem-based management of the marine environment (MFish, 1998a).

The Quota Management System

To achieve sustainable utilisation of fisheries resources, the Fisheries Act 1996 states that fish stocks within the QMS are to be maintained at, or directed towards a level that can produce a Maximum Sustainable Yield or MSY (Fisheries Act, 1996). To manage fish stocks as close as possible to the MSY requires annually setting the catch limit allocated to that species (Fisheries Act, 1996). This is referred to as the Total Allowable Catch for a fish stock or species (Hawkey, 1994).

To determine the rate at which a stock is managed towards the MSY target, the Minister of Fisheries must consider the relevant social, economic and cultural factors when setting the Total Allowable Catch limits for quota holders within the QMS (Pfahler, 1996 in Hughey, 1998).

The QMS and sustainable utilisation

Considerable literature exists that states that the QMS alone has not managed New Zealand's fisheries resources sustainably. This is generally sourced from reports that suggest the QMS may be struggling to ensure sustainable outcomes (Duncan, 1993, Hawkey, 1994, Sissenwine and Mace, 1992 in Bathgate and Memon, 1998). This is because friction between the goals of

Mace, 1992 in Bathgate and Memon, 1998). This is because friction between the goals of economic efficiency and conservation may exist with many resource users interested in economic profit rather than in conservation (Bathgate and Memon, 1998).

One mechanism provided for in the Fisheries Act 1996 can transform the current extractive management focus towards a more sustainable, ecosystem-based approach is co-management (Bathgate and Memon, 1998). Co-management arrangements equally share the power and decision making responsibility for resource management between government and stakeholders or local resource users (Hughey et al, 1998). A recent review of the Fisheries Act has advocated the shift towards co-management arrangements to improve the management of fisheries resources (Hartvelte, 1998).

A recent independent review of the Fisheries Act identified some important information regarding the necessary steps to more effectively managing fisheries resources. The following paragraphs provide a summary of what is currently expected with regard to the proposed amendments of the Fisheries Act

The independent review of the Fisheries Act 1996

The recommendations of the Independent Reviewer were reported to Cabinet in late 1998. Cabinet agreed to the implementation of a number of the recommendations through the Fisheries Amendment Bill 1998, which is currently before the Primary Production Select Committee (Meek, 1999). Cabinet also decided on another reform that should be the subject of public consultation, that of providing for co-management of fisheries. The purpose of co-management is to allow rights-holders to collectively manage fisheries resources. A co-managed fishery would

be managed according to a co-management plan, developed within parameters set by the Crown and approved by the Minister (Meek, 1999). Management of a fishery (including setting the harvesting rules and the services required to support sustainable use) can be customised by rights-holders in the particular fishery (Meek, 1999).

A full co-management arrangement could not theoretically occur until the rights of all harvesters including commercial, recreational and customary, have been clearly defined in a consistent fashion, and that each sector understands its rights and responsibilities (Meek, 1999). At present clearly defined property rights do not exist for all relevant stakeholders (Meek, 1999). Therefore, the Ministry of Fisheries still has a great deal of work to do in developing the possible options for co-management, before it commences the consultation process. Despite these intentions, there is still no consensus as to what precisely co-management should involve (Meek, 1999).

Provision for Taiapure and customary fishing

Aside from the QMS, the Fisheries Act 1996 provides the statutory framework for Taiapure-Local Fisheries and customary fishing regulations developed in accordance with the principles of the Treaty of Waitangi. Part IX of the fisheries Act is separated into two specific sections, the first deals with Taiapure-Local Fisheries, and the second, with customary fishing.

Part IX recognises the special relationship of Maori with the marine environment, emphasising customary and non-commercial interests in the resource (MFish, 1996). Parts III, IV, and VII of the Fisheries Act provide for consultation with Maori in regard to setting the Total Allowable Catch (TAC), of sustainability measures, dispute resolution and management decisions (Fisheries Act, 1996).

2.5 The Deed of Settlement Act 1998

With the passing of the Te Runanga o Ngai Tahu Act 1996, Te Runanga o Ngai Tahu (TRONT) finally achieved autonomy as a people and gained complete control over their own tribal affairs (Ngai Tahu Negotiating Group, 1998). Soon after, TRONT entered into negotiation over the settlement of the Ngai Tahu claim for past grievances (Ngai Tahu Negotiating Group, 1998).

Customary fisheries

In terms of customary fisheries, the Deed of Settlement provides for greater access to customary fisheries of importance to the tribe and greater input to the management of those fisheries (Ngai Tahu Negotiating Group, 1998). This is achieved through eight separate but interrelated elements within the Customary Fisheries section of the Crown's Settlement Offer, those elements of particular interest to this research are:

Acknowledgement-Ngai Tahu's special relationship to a number of 'taonga' fish species that are currently being managed only for conservation purposes, will be acknowledged by the Crown.

Advisory Committees- TRONT will be recognised in an advisory role to the Ministers of Fisheries and Conservation, and must be consulted over the management of fisheries resources and conservation issues.

Customary Kaimoana Regulations- the Crown's Settlement Offer included putting into place regulations providing for the management of customary marine fisheries.

Temporary closure- provisions that used to exist in the Fisheries Act to allow the Minister to temporarily close specific fisheries (thereby giving effect to rahui) would be introduced (Ngai Tahu Negotiating Group, 1998).

Taonga Species Management

Within the Crown's Settlement Offer, 6 marine mammals and a number of bird and plant species are recognised and acknowledged. Ngai Tahu will be offered membership to groups involved in species management (Ngai Tahu Negotiating Group, 1998). Those responsible for the management of species will be required to consult with and have particular regard to Ngai Tahu's views about their management (Ngai Tahu Negotiating Group, 1998).

Coastal space

The Coastal Marine area is traditionally important mahinga kai area for Ngai Tahu and these provisions ensure that Ngai Tahu are guaranteed access to future Crown allocations of coastal space and its management. The Crown's Settlement Offer provides that if 'coastal tendering' is ever instituted within the Ngai Tahu Takiwa, authorisations for 10% of the space tendered, of no less than fair average quality, would be made available to Ngai Tahu (Ngai Tahu Negotiating Group, 1998). This is of particular relevance to this research because of the area of the coast where the case study used, the Pohatu Marine Reserve, is situated. Flea Bay exists within the Banks Peninsula region, and is defined as a Statutory Acknowledgement Area within the Deed of Settlement (Ngai Tahu Negotiating Group, 1998).

The Deed of Settlement Act requires the Crown to consult TRONT on issues related to the marine environment of the South Island. In addition to the DoS, the South Island Customary

Fisheries Regulations provided a statutory framework to settle claims for the non-commercial (customary) needs of Maori.

2.6 The Fisheries (South Island Customary Fishing) Regulations 1998

Background

The South Island Customary Fisheries Regulations were enacted to allow for the close management of customary fishing by Kaitiaki appointed by iwi with support from the law (MFish, 1998c). South Island tribes as a part of the Ngai Tahu Deed of Settlement have agreed upon these South Island regulations. These regulations are intended to provide Kaitiaki (guardians) with both the flexibility to manage customary fisheries and maintain accountability to their people whilst meeting the sustainability requirement within Fisheries Act 1996. The tools made available for customary fishing within the South Island Customary Fisheries Regulations include the Act itself, area management through the use of Taiapure, Mataitai Reserves and rahui, and the ability to participate in fisheries management decision-making (Ngai Tahu Development Corporation, 1999).

Maori Conservation ethic

Customary regulations have been introduced into marine management for a number of reasons. Firstly, traditional controls such as rahui and tapu were enforced either temporarily (by the iwi) or spiritually. The right to control fishing was unstructured, the rules were simply known, and individual use rights were bound by kinship and not merely by boundaries (MAF, 1993). In the modern context these traditional sanctions have proved insufficient to prevent the depletion of fisheries, as they can only be applied to iwi and taiwi, who understand and willingly adhere to traditional practices. These mechanisms have been modified for contemporary use by

enforcement through regulation and legal boundaries, while still maintaining the integrity of traditional controls.

Separate customary rights

Providing for non-commercial customary fishing does not remove the right of Tangata Whenua to catch their recreational limits under the Amateur Fishing Regulations. The South Island Customary Regulations do not provide for any type of commercial fishing, and any authorisation used under the customary fishing regulations cannot be used to take fish for trade, exchange for money, or any form of pecuniary gain (SICFR, 1998). The South Island Customary Fisheries Regulations provide an important contribution to identifying the rights of Ngai Tahu and South Island Tangata Whenua in marine management (Ngai Tahu Development Corporation, 1998). The framework for marine management in the South Island is based on the requirements and special considerations identified by Ngai Tahu. Therefore, the mechanisms available for the management of the marine environment is subject to the boundaries created by national legislation, but will provide for unique opportunities recognised within the Deed of Settlement, Treaty of Waitangi Fisheries Claims Settlement Act, and South Island Customary Fisheries Regulations.

2.7 Conclusion

The purpose of this chapter has been to describe the institutional framework for fisheries and marine management in New Zealand, and specifically for the South Island. The key legislative frameworks were identified and the institutional arrangements of these Acts were recognised. Within these statutes, a range of fisheries and marine management mechanisms were identified and discussed. From this discussion, it is possible to identify different perspectives related to the

management, access and use of the marine environment through a range of mechanisms including marine reserves, Taiapure-Local Fishery, Mātaitai reserves and rāhui.

The Marine Reserves Act 1971 provided the first marine management mechanism of its kind in New Zealand. The Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 provided initial provisions for marine management, and secured the participation rights of Tangata Whenua in decision-making for the marine environment. The Fisheries Act 1996 supports the marine management mechanisms introduced in the Treaty of Waitangi Fisheries Claims Settlement Act. These mechanisms include the establishment of Taiapure-Local Fishery areas of customary importance to Tangata Whenua, rāhui and Mātaitai reserves, and the participation of Māori in the decision-making process for managing fisheries resources. The Fisheries Act 1996 therefore plays a central legislative role in future of sustainable marine management in New Zealand, and the Ministry of Fisheries must be considered a crucial participant in the management of the marine environment of the South Island alongside the Department of Conservation and TRONT.

Chapter Three

Co-management arrangements for marine management

3.1 Introduction

The purpose of Chapter Three is to review the concept of co-management. The chapter discusses how co-management arrangements can contribute to effective sustainable management of the marine environment. The chapter will describe the range of co-management arrangements available to resource users and the definitions that underpin these. In addition, key characteristics for successful co-management arrangements are identified. These characteristics will be used as criteria to evaluate the Pohatu Marine Reserve as a successful co-management arrangement.

The rationale for co-management arrangements in marine management

Marine management arrangements on the global scale have generally been borne from recurring crises that have occurred under top-down, bureaucratic and science-based approaches (Jentoft et al, 1998). Redistribution of decision-making power from central government to local communities and resource stakeholders is the central concept within co-management (Pinkerton, 1989).

Plundered fish stocks and loss of biodiversity amongst marine and coastal ecosystems has led to recognition that fisheries management initiatives require reinvention (Pinkerton, 1994). As a response to regulatory controlled, central government focussed fisheries management, innovative

and alternative arrangements based on involving the resource user in management of fisheries are becoming prevalent (Jentoft et al, 1998).

The most recent review of the Fisheries Act (September 1998) states that co-management is a long-term goal for the management of New Zealand fisheries within the context of the Fisheries Act 1996 (Hartevelte, 1998). Despite this, no clear definition of co-management exists. Therefore, how should co-management be defined in New Zealand and in particular, in the context of marine management? In order to answer these questions the concept of co-management must be clarified.

3.2 Co-management

What is co-management?

Jentoft et al (1998) suggest that co-management is thought to do away with the distant, impersonal, insensitive bureaucratic approach now characterising the role of government. Responsibility for management functions is decentralised and delegated to user organisations at national, regional or local levels (Jentoft et al, 1998). This particular definition of co-management calls for interactive governance and co-operative democracy, whether through direct participation or through representation at levels that transcend local community boundaries (Jentoft et al, 1998).

Co-management can also be described as “genuine power sharing between community based managers and government agencies-so that each can check the potential excesses of the other (Mitchell, 1997: 188). Co-management arrangements reflect one means of achieving a

partnership approach designed to recognise and incorporate local knowledge systems of resource users (and indigenous knowledge-systems) with the management and implementation functions of government agencies to achieve collective management (Mitchell, 1997:187-188). Because co-management arrangements embrace the needs of resource users and aim to manage natural resources in a manner that provides for the needs of future generations-co-management can be considered a mechanism for achieving sustainable management.

Who should be involved in co-management arrangements?

Pinkerton (1994) acknowledges co-management arrangements as integrating the concerns of multiple interests, while recognising the special rights of aboriginal communities. To manage conflicts in marine management, a balance of power is struck (Pinkerton, 1994). This balance occurs within co-management arrangements by altering the relationships within and between stakeholders with an interest or 'stake' in marine management by requiring these groups to work collectively to manage the resource (Pinkerton, 1989:4-5 in Mitchell, 1997:189). As such, co-management is perceived as having the potential to provide benefits where stakeholders can optimise their mutual good and plan co-operatively to achieve sustainable long term goals (Pinkerton, 1989 in Mitchell, 1997).

Why become involved in co-management arrangements?

Blending the state and local level management systems, and the integration of local and scientific knowledge, is believed to result in more positive outcomes including more informed and equitable decision making that results in decisions that are more likely to be implemented (Prystupa, 1998). Another benefit of co-management arrangements includes better quality information derived from a combination of the local and state level sources. This may lead to

more successful implementation and involvement in the management process, by involving all interested parties in the development of management plans, strategies and common principles. Achieving consensus and a positive response from stakeholders in co-management arrangements may lead to an improved sense of ownership or stewardship by all involved (Mitchell, 1997).

3.3 A definition of co-management

Based on the above introduction to the concept of co-management, for the purpose of this research project the term co-management is defined as:

“...the sharing of resource management between government and the local community with the aim of accommodating the needs of all resources users within a legal framework established and supported by government...” (adapted from Jentoft and McCay, 1995 in Mitchell, 1997).

This definition warrants some clarification. The author considers this definition of co-management to be the ultimate goal of marine management in New Zealand. Co-management in this particular form would require the willingness to compromise in terms of preference over tools managing the marine environment. Resource users can select the mix of tools that can provide for these needs, achieve the goals of the management group, and contribute to the goal of sustainable management. A localised management regime would require strong legislative backing in order to assist the management groups in effectively managing their resources. Mechanisms best supplied by central government such as legislative support would be required in order to ensure that the sustainability principles and goals within co-management arrangements were being met.

Because a number of initiatives exist under the title co-management, and differ in their approach to stakeholder participation in decision making and management functions, a range of co-management initiatives is recognised to describe these variations, as discussed below.

3.4 A continuum of co-management arrangements

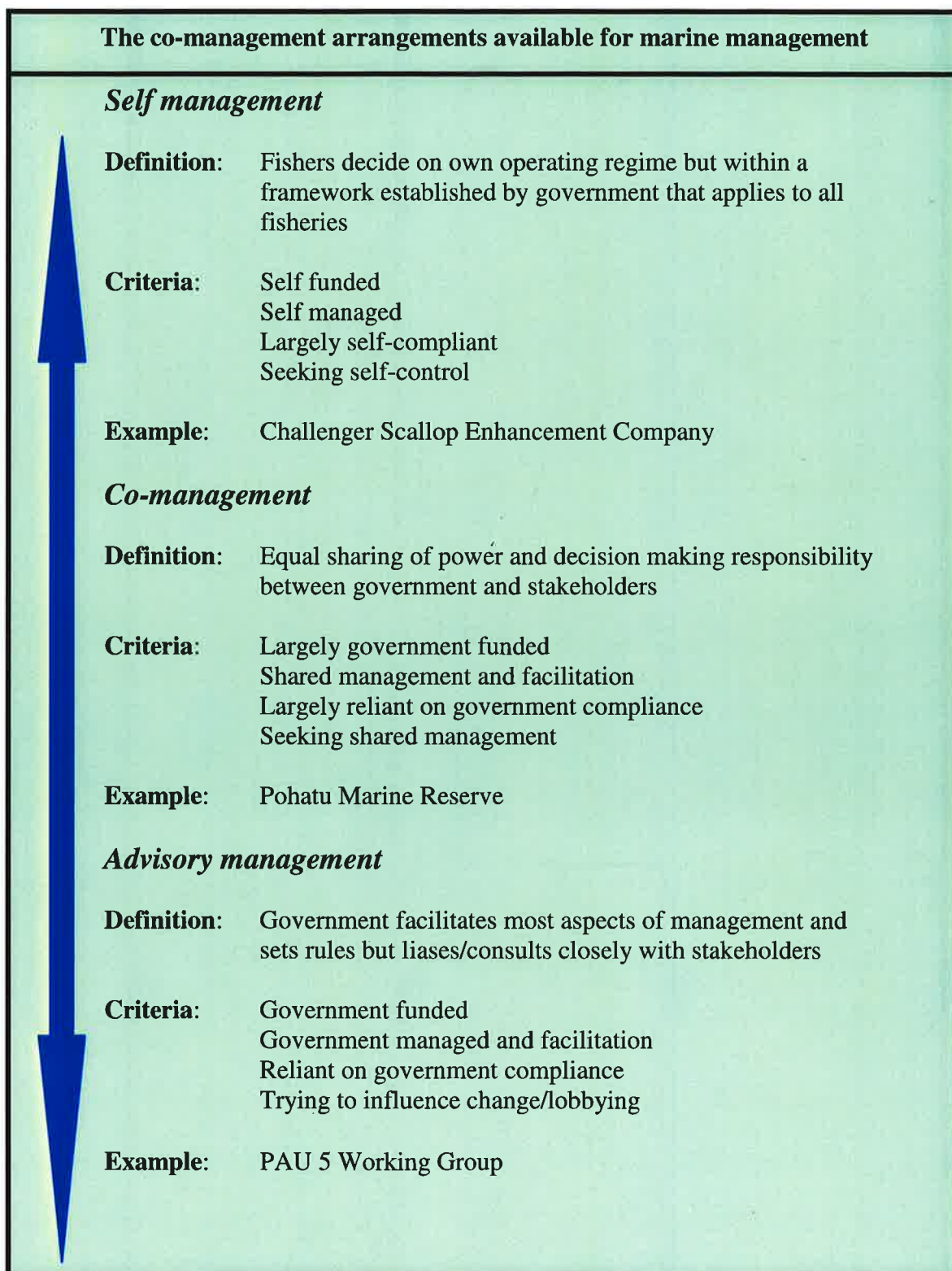
“(We) are really talking about a continuum which relates to the extent of power sharing between the different stakeholders (usually government on one side, and all the rest on the other)” (Gilmour in Herrick, 1996).

The title co-management lends itself to a theoretical range of methods that involve stakeholders in decision making and resource management (Hughey, 1998). Figure Five identifies and defines arrangements that exist within the continuum of co-management arrangements available for marine management.

Self management

Self-management differs from co-management in that it tends to be a closed management system (Hughey et al, 1998). Management is largely achieved “in-house” and is often commercially driven. The management functions, funding and compliance are self-generated through the development of codes of practice and internal management and budgeting goal setting. The aim of self-management is to achieve independence and self-control (Hughey, 1998). No external

Figure Five: The co-management arrangements available for marine management
 (Adapted from Hughey, 1998)



parties have decision-making or management roles in a self-management arrangement (Townsend, 1995).

Central government is not a stakeholder in self-management (Hughey et al, 1998). If self-management is consistent and complies with the purpose and requirements of the Fisheries Act 1996 (in terms of sustainable utilisation of fisheries resources), and other important criteria, this method can be approved. One current example of a self-management arrangement in New Zealand is the Challenger Scallop Enhancement Company (Hughey et al, 1998).

Advisory management

Advisory management differs from self-management in that it is very much dominated by central government. All functions of an advisory management regime are reliant on assistance from central government (Hughey et al, 1998). This usually takes the form of facilitating, servicing, advising and dissemination of information roles at meetings. Stakeholders operate as advisors whose mandate it is to make recommendations for improving the management of the resource by accommodating the needs of resource users in a sustainable manner. An advisory management group has no authority over decision-making or management decisions. This arrangement is very much an advisory one in that central government is not required to act on the recommendations put forward by an advisory management group. As such, the contribution to marine management may be limited depending on the statutory basis and respect accorded to the advisory group. One such example of advisory management is the PAU 5 Working group for the Outage-Southland Pau 5 fishery.

Co-management

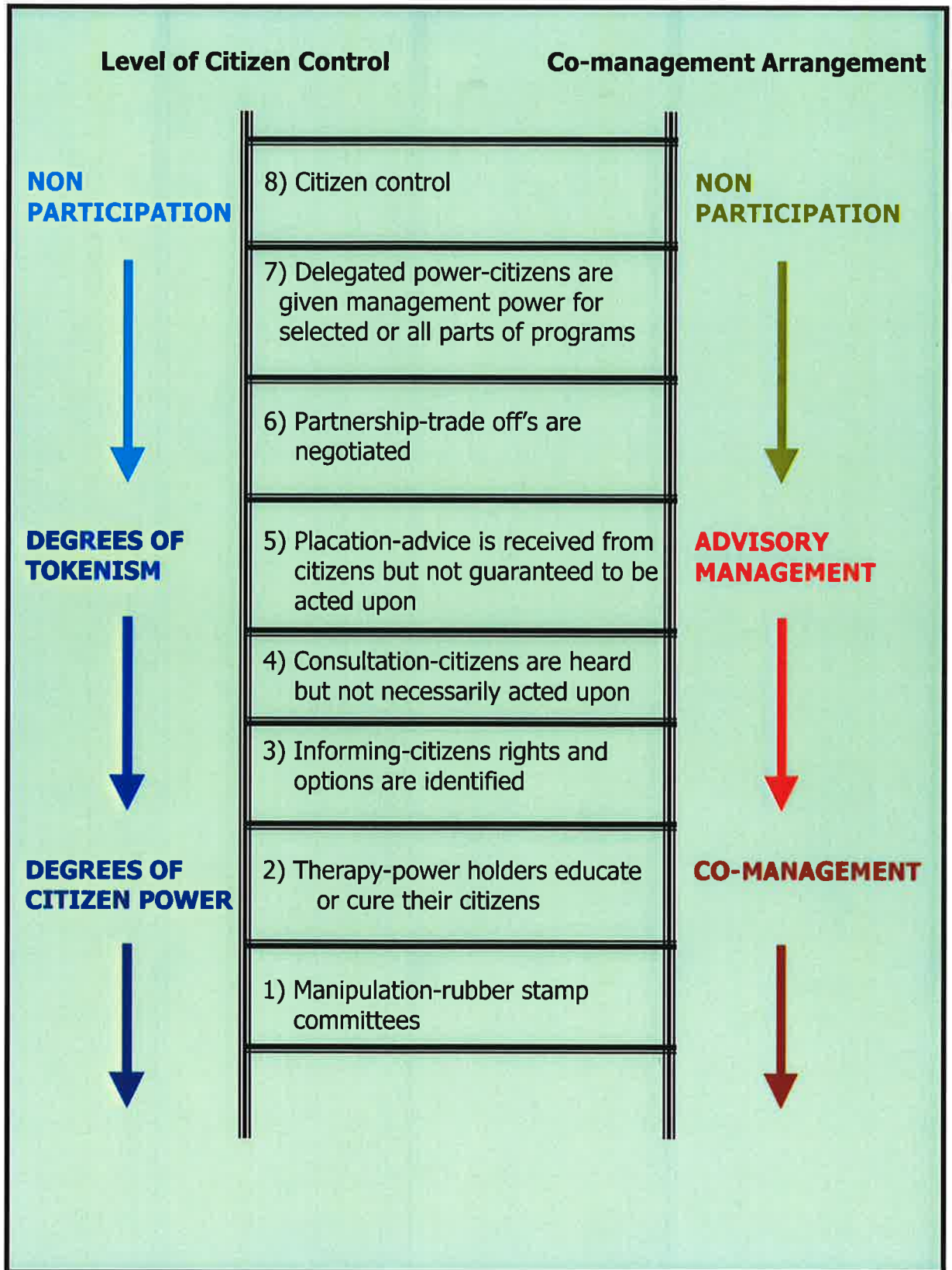
As Figure Five illustrates, co-management exists in the middle ground between self and advisory management. The main characteristic of co-management is its sharing of management functions including funding, facilitation, compliance and decision-making (Dubbink and van Vliet, 1996). Co-management arrangements are neither self-funding nor totally reliant on central government. they appear to exist in partnership arrangements with central government and resource users.

3.5 Arnstein's ladder of citizen participation

The variation between self, advisory and co-management can be recognised in Arnstein's Ladder of Citizen Participation (Figure Six). Arnstein developed a typology of eight levels of participation to identify arrangements that allowed for the least amount of citizen participation through to those that provide for the most participation, in the form of a sequential ladder. Rungs one and two are essentially levels of non-participation. Power holders educate or cure participants, or provide forms of 'token' participation. Ultimately, these rungs have little or no impact on decision making for resource management issues without the co-operation and support of the power holders. The third through fifth rungs reinforce and support the definition of an advisory management approach.

On rungs eight and seven, and to an extent six, genuine distribution of decision making power and management control occurs. Forms of co-management are most likely to occur within the partnership, delegated power or citizen control rungs (Herrick, 1996). Partnership provides for negotiation and trading power in decision making, and delegated power and citizen control allow for the majority or full decision-making power to be allocated to participants (Herrick, 1996).

Figure Six: Arnstein's eight rungs on the ladder of citizen participation (adapted from Arnstein 1969, in Mitchell, 1997).



3.6 Pinkerton's conditions for successful co-management

Pinkerton (1994) has also identified conditions for successful co-management. Pinkerton acknowledges that no single way, or even a correct method for co-managing natural resources exists. Despite this “there are a number of features that are widely adopted by co-management arrangements” (Pinkerton, 1994:2372). Pinkerton (1994) suggests that these may be considered good predictors of successful co-management arrangements. Figure Seven presents those characteristics or conditions that have been identified by Pinkerton as those crucial to successful co-management. Pinkerton advises that these characteristics should not be viewed as an absolute set, rather as cumulative elements which work in tandem with one another under the general principle: the more conditions apply, the better the chance for success (Pinkerton, 1994:2374).

3.7 Key criteria for successful co-management arrangements

Based on the above literature review, the following criteria have been selected to evaluate the Pohatu Marine Reserve, and follows the general principle that the more criterion fulfilled, the more successful the co-management arrangement.

Participation

This criterion was derived from the question ‘who is involved in co-management?’ and the key condition of ‘clear criteria and participation’ from Pinkerton.

Identifying the range of participants involved in a co-management arrangement can assist in defining which co-management approach is being undertaken. If participants within a management framework only represent a single perspective or stakeholder, then the criterion for a successful co-management arrangement is not fulfilled.

Successful co-management arrangements include participants representing local knowledge through local resource users and interest groups, indigenous people, government and non-government support agencies. The rationale behind the integration of local knowledge is based on the opinion that the local community and resource users have the most comprehensive understanding of the resource by interacting closely with the resource (Pinkerton, 1994). Partnership between central government and the resource user facilitates the equitable representation, participation and accommodation of the resource user's needs within the decision-making framework (Pinkerton, 1994).

In addition, a willingness to respect the needs and perspectives of other resource users contributes to fulfilling the criterion (Pinkerton, 1994). This willingness stems from being prepared to accept compromise over the mechanisms selected to manage the resource. By doing so, the participants are providing for the needs of other resources users, as they would expect others to reciprocate in future decisions. If participants in co-management arrangements have a desire for solving issues related to the management of a resource, and are generally committed to addressing resource sustainability problems (Pinkerton, 1994:2373), and possess a willingness to respect other's perspectives, then the criterion for successful co-management may be fulfilled.

Similarly, Prystupa (1998) suggests that such co-management arrangements can produce more positive outcomes including more informed and equitable decision making, that results in decisions that are more likely to be respected and successfully implemented. The motivation to achieve consensus between stakeholders in co-management arrangements may lead to an improved sense of ownership or stewardship by all involved (Prystupa, 1998).

Clear Boundaries

This criterion is derived directly from Pinkerton (1994). Clearly defined boundaries can contribute to successful co-management arrangements by setting aside distinct areas for the exclusive use or management to meet a specific purpose. Different boundaries can be created within these areas to accommodate the unique needs of different resource user groups. Clearly defined areas providing for specific needs of resource users can enhance the sense of ownership within the management arrangement by accommodating the needs of resource users, thereby generating respect towards the resource and its management. This can provide a strong incentive for participation in co-management arrangements if the perspectives of resource user groups can be accommodated within the overall management of the resource.

Figure Seven: Pinkerton's Conditions for successful co-management arrangements

Pinkerton's conditions for successful co-management arrangements
<p><i>Clear criteria for participation management</i></p> <p>The greater role of local residents is advised for co-management, because local resource users, indigenous cultures, and those that live within the closest proximity to the resource being managed, are considered to have the greatest stake, and therefore should have more influence on decisions.</p>
<p><i>Clear boundaries</i></p> <p>Incentives for local stewardship of areas are stronger when boundaries are clearly delineated. The ability to exclude at least some users from local areas creates a greater sense of ownership and responsibility among local users</p>
<p><i>Management units of a scale appropriate to human resources and the ecology of any particular area</i></p> <p>Local stakeholders tend to protect and manage resources within their territory in proportion to the costs and benefits. The success of any local management system would depend vitally on the active support of local fishers and communities, who would be in the best position to propose the scale of the management area. The scale of the management area is also generally based on achieving a balance between the natural and human resources.</p>
<p><i>Clear inception agreements</i></p> <p>Local management groups will not have incentives to do management planning, enhancement, or habitat protection if all the benefits of their efforts are captured by intercepting parties. Therefore, incentives for local management are required. Most of these take the form of some benefits that occurs as a result of their management of the resource.</p>

Pinkerton's conditions for successful co-management of fisheries

Cost recovery related to local management activities

Legislation could allow local management boards to capture some of the benefits from local production, including enhancement, habitat protection, and better stock management.

Clear legal definition of local powers

Local bodies will take themselves seriously and put out more effort when there is enabling legislation or clarification of rights sufficient to give local management boards confidence that their work will not be disrupted by outside forces or dismissed as trivial.

Local all-stakeholder co-management boards

The fundamental building block for co-operative management would be a local board with members representing all interested parties. Boards could provide the forum for discussion of all local fisheries management questions, the development of plans, and the review of management actions. The process would be most effective if all parties had more to gain by participating and working to solve problems together than by not participating or by attempting to disrupt the process. The process would be most effective if all parties had more to gain by participating and working to solve problems together than by not participating or by attempting to disrupt the process.

This would require consideration of all legitimate concerns. Also, government would have to respect the integrity of the process. At the same time, parties that come together would have to commit themselves to addressing basic resource sustainability problems, rather than acting out of a narrow, short-term self-interest.

Appropriate Scale

This criterion is also derived directly from Pinkerton (1994). The size of the area under management should be in proportion to the number of representatives involved in its management (Pinkerton, 1994). An area that is too small for the size of the management group may result in conflicts over accommodating the needs of all resource users (Pinkerton, 1994). Alternatively, if the perspectives of all participants cannot be accommodated, a willingness to provide for the needs of other resource users may be refused (Pinkerton, 1994).

The criterion for appropriate scale is dependent on the active support of the local community. Co-management arrangements are most effective when stakeholders are involved in managing a local resource. A community focus can enhance ownership and a feeling of stewardship over the resource based on the close proximity of the stakeholder to the resource they are involved in managing. The appropriate scale of the co-management area suggests that setting aside specific areas within the boundaries to provide for their particular needs can accommodate different resource users. Therefore, if a large area is set aside for co-management, it is possible to provide for specific areas to meet particular needs within that.

To fulfil this criterion, management arrangements must be proportionate to the area being managed, an area that is too large for the participants cannot hope to achieve efficient or effective management of the resource, thereby inviting an ineffective and potentially unsuccessful management framework. Alternatively, it is unwise having too few participants representing too many perspectives, which may not do justice to the needs of resource user groups and accommodating their needs.

Inception agreements

If no incentive for participation in a co-management arrangement is apparent, the likelihood of establishing and maintaining a successful co-management arrangement is marginal (Pinkerton, 1994). Those involved in co-management of a resource do so seeking some form of incentive for their participation. Incentives are not always tangible, rather, they can be specific outcomes or decisions that accommodate the needs of the resource users or stakeholders represented. Inception agreements can include tangible incentives such as the provision of financial support to participate. However this incentive is not consistent among the marine management mechanisms described in this research. This criterion is fulfilled if it can be identified that positive benefits can be captured by participants in the management arrangements rather than be captured by intercepting agencies. These benefits will be considered as incentives for participation.

Cost recovery

Achieving partial cost recovery is considered an incentive for participation in co-management arrangements. This is because the provision of cost recovery can allow for broadening management functions and capabilities, which in turn can enhance the contribution of the co-management arrangement. Cost recovery must be considered as a criterion for successful co-management within a management board. If cost recovery is provided for, participants can establish a feeling of greater control and sense of responsibility over the resource. This in turn can facilitate a greater sense of ownership over the resource. In order to acquire a portion of cost recovery for a co-management arrangement, it must be legislated for.

Clear legal definition of local powers

Many of the above require this criterion in order to contribute to successful co-management arrangements. The terms of reference, decision-making process and characteristics of a co-management arrangement are identified within their legal definition. As such, co-management arrangements can only operate within the boundaries defined for them in legislation. It is necessary then, for co-management arrangements to be comprehensively defined, and given a firm legal basis. Co-management arrangements that are given a clear legal definition of their local powers are most likely to succeed.

Co-management boards

The most important aspect of a co-management arrangement is the development of the management board. Co-management boards require participants that equitably represent all legitimate stakeholders and resource users. The management process works most effectively if it is organised so that all parties have more to gain from participating than by not. Similarly, the decision-making processes, facilitation of meetings, dissemination of information to other participants, and other functions of meetings needs to occur in a manner that accommodates and educates all participants. These provisions can enhance the incentive to participate by respecting the legitimate concerns of stakeholder groups.

3.8 Conclusions

In this chapter, co-management was identified and defined. Secondly, co-management was discussed by identifying who participates in co-management arrangements and why participation in co-management may be desirable. From here co-management was placed in a wider context of

the co-management arrangements available. The range of co-management arrangements available was then compared to Arnstein's ladder of citizen participation.

Pinkerton's key characteristics for successful co-management were discussed. From this discussion, criteria for identifying successful co-management arrangements were yielded. The following chapter introduces the Banks Peninsula marine environment in which the case study, the Pohatu Marine Reserve exists, and identifies some of the issues that have shaped marine management in the area.

Chapter Four

A history of the marine management mechanisms proposed and implemented in the Banks Peninsula marine environment.

4.1 Introduction

The purpose of Chapter Four is to provide the history and rationale behind the marine management mechanisms proposed and established in the Banks Peninsula marine area. This will be achieved by firstly providing a background of the Banks Peninsula marine area and identifying the needs of existing resource users of the marine environment. The discussion then focuses on the history of the marine management mechanisms proposed or established in Banks Peninsula, and how the needs of resource users are accommodated for. The specific marine management mechanisms discussed include:

- ✦ The Banks Peninsula Marine Mammal Sanctuary
- ✦ The Akaroa Harbour and Flea Bay Marine Reserve proposals
- ✦ The establishment of the Rapaki Mataitai Reserve
- ✦ The establishment of the Pohatu Marine Reserve
- ✦ The Akaroa Harbour Taiapure proposal

Due to the limited scope of this research, marine farms are not considered as a form of marine management, alongside the concepts described here. Despite this, the fact that they exist specifically within Akaroa Harbour warrants recognition. Of the four marine farms that exist,

were established under the Marine Farming Act 1971 to farm a range of paua, salmon and sponges.

By reviewing the rationale behind implementing the above mechanisms, Chapter Four sets the scene for evaluating the process of establishing the Pohatu Marine Reserve against the criteria for successful co-management. This will describe the public consultation process, identify relevant stakeholders, statutory frameworks and major issues that have influenced marine management in Banks Peninsula. The Pohatu case study provides an insight into the marine management of Banks Peninsula, and identifies an important foundation from which successful co-management can contribute to the sustainable management of the marine environment. Figure Eight presents the mechanisms identified for discussion in their chronological order.

Figure Eight Proposed and established marine management mechanisms in the Banks Peninsula area.

Proposed and established marine management mechanisms in the Banks Peninsula area	
1986	The introduction of QMS for commercial fishing and the Fisheries (Amateur Fishing) Regulations
1988	The establishment of the Banks Peninsula Marine Mammal Sanctuary, and subsequent commercial and recreational fishing bans and restrictions
1996	The Akaroa Harbour and Flea Bay Marine Reserve proposals
1997	The Akaroa Harbour Taiapure proposal
1999	The Rapaki Bay Mataitai Reserve
1999	The gazettal of the Flea Bay Marine Reserve

The area known as the Banks Peninsula extends from the East Coast of the Canterbury region in the South Island of New Zealand. The previous page identifies the Banks Peninsula area and the location of the marine management mechanisms discussed in this chapter.

Geological history

From a geological perspective, Banks Peninsula first emerged as an island thrust out of the sea by volcanic eruptions estimated to have begun between 10 and 15 million years ago (BPDC, 1997). The harbours of Lyttelton and Akaroa that indent the coastline of Banks Peninsula, are eroded remnants of those eruptions (BPDC, 1997). Since the time of the first eruptions, the erosive action of the sea and streams has shaped the land to form a pattern of valleys, coastal cliffs and indented bays that characterise the Peninsula today (BPDC, 1997).

The impact of glacial action during the ice ages has also contributed to the unique geological form of Banks Peninsula (BPDC, 1997). As glaciers ground away the Southern Alps, fine silt was produced and, carried by prevailing Northwest winds, were deposited as loess over the existing volcanic landform (BPDC, 1997). Simultaneously, rivers carried rock eroded by glaciers and deposited them at the coast, which gradually moved eastward to the Canterbury plains. Approximately 20,000 years ago, the plains met the volcanic island and linked it to the South Island (BPDC, 1997).

The variety of cliff faces, headlands, sheltered sandy bays and the dramatic harbours of Lyttelton and Akaroa form a highly unique and spectacular link between the land and sea, which contributes significantly to the scenic values of the Banks Peninsula district (BPDC, 1997, DoC,

1888). Aside from their geological importance, the geography of the Banks Peninsula was considered to be an important asset to those initially settling in the district.

Human settlement

From a cultural perspective, Maori tradition recognises three waves of ancient settlement in Banks Peninsula (BPDC, 1997). The settlement of Ngai Tahu came with the most recent wave, known as Te Tai Nui, which has had the strongest influence on the relationship between Maori and ancestral land, water bodies, wahi tapu (sacred sites) and other taonga (BPDC, 1997). With arrival of European settlement in 1815-16, Ngai Tahu were able to barter goods such as water, flax and other fibres and food (Rice, 1992). Mostly this occurred out of Onuku (Akaroa), (Koukourarata) Port Levy, and Port Cooper (Lyttelton) (Rice, 1992).

Akaroa and Lyttelton became the principal townships in the province because of their trade and Lyttelton especially as a port facility (BPDC, 1997). As the population of the area grew, farming became established as the principle economic activity of the District (BPDC, 1997). More recently however, sheep and beef production have been considered the backbone of the rural economy alone, and the economy of the Peninsula has diversified and been superseded by the establishment of industries such as woodlot forestry, horticulture and fishing (BPDC, 1997).

Akaroa Harbour

Akaroa Harbour at 14.5 km long, and covering 44 sq. km, is the largest harbour on Banks Peninsula (AHMPS, 1994). The following page provides a visual representation of Akaroa Harbour. The harbour has an abundant marine life and many diverse and distinctive habitats. While marine surveys have not identified any unique species, the wide assemblage of species



FIGURE 1: Akaroa Harbour upper, middle and outer zones, outer western, outer eastern and extended outer eastern zones referred to in text.

within a comparatively small area makes the harbour particularly unique (DoC, 1998a).

Akaroa Harbour has also experienced an fascinating settlement history. Soon after Ngai Tahu settled in Banks Peninsula, chiefs explored and claimed parts of Akaroa (Whangaroa) as their own (Tainui, 1997). Akaroa was an attractive stronghold for the Ngai Tahu people where a strong Maori community existed on the East Side of Akaroa Harbour (Ogilvie, 1990). Ngai Tahu were reliant on the range of resources provided for by the harbour. The harbour provided a necessary source of mahinga-kai (food) for Maori, specifically kuku (mussels), pipi, and mako (shark) (Tikao, 1990).

Today, the importance of access to the marine environment for mahinga-kai has not dissipated. The Banks Peninsula marine area and Akaroa Harbour in particular provide for a significant range of activities. Demand for access and use of the marine environment has strengthened beyond food gathering to a greater range of recreational pursuits and resource uses for Maori, New Zealand Europeans and visitors alike. The landscape and seascape of the harbour provides for a number of water-based activities including; yachting, parasailing, windsurfing, and fishing (AHMPS, 1994). In addition, the area boasts a growing recreation and tourism industry supported by successful wineries and local produce (AHMPS, 1994).

The marine environment appears to be especially important in terms of utilising fisheries resources, the most prevalent appearing to be recreational fishing. The harbour is also home to four commercial marine farms which harvest paua (abalone), salmon, seaweed and sponges (AHMPS, 1994). Identifying these resource users and why they consider the marine environment

important contributes to understanding how marine management in Banks Peninsula and Akaroa Harbour has developed.

4.3 Stakeholder perspectives towards marine management in Banks Peninsula and Akaroa Harbour

The importance of being able to fish in Akaroa Harbour to provide sustenance suggests that Maori and New Zealanders alike consider the Banks Peninsula area and Akaroa Harbour to be of particular importance. It is these resource users, as shall be identified, who have exercised a strong role in shaping the management of the area over time, and more recently involved in proposing and establishing marine management mechanisms in the area.

Commercial fishing

The Fisheries Act 1983 introduced the innovative Individual Transferable Quota (ITQ) system to manage fisheries resources in New Zealand and introduced the QMS that has since been responsible for managing commercial fishing. Within the Banks Peninsula area, commercial fishing is generally restricted to trawling, long lining and set netting (Stark, 1999, pers. comm.). Commercial fishing occurs 5-30 miles off the Banks Peninsula coastline rather than in Akaroa Harbour (Brown, 1999 pers. comm.). The most prevalent quota management species caught include; red cod, flatfish, barracouta, terekahi, gurnard, flounder, and groper (*Jasus Edwardsii*), (Brown, 1999 pers. comm., Enderby and Enderby, 1998, DoC 1994b). Approximately three commercial crayfishers operate out of Akaroa Harbour and it is these commercial fishers who operate most closely to the coastline (Brown, 1999, pers. comm.).

To support commercial fishing interests in marine management, commercial fishers are represented on the Banks Peninsula Fisheries Working Group (hereafter BPFWG) which was established in 1993. While this working group still exists, it is currently waiting for the advisory committee for the Pohatu Marine Reserve to be established, and the Taiapure proposal for Akaroa Harbour to be finalised before the working group approaches a management plan (Miekle, 1999 pers. comm.). Commercial fishers are also represented on other marine management interest groups including the Akaroa Harbour Marine Protection Society (AHMPS) and Akaroa Harbour Marine Conservation Working Group (AHMCWG).

Recreational fishing

Recreational fishing in Akaroa Harbour is considered the most prominent fishing activity within the Banks Peninsula marine area (Miekle, 1999 pers.comm.). Recreational fishing is managed under the Fisheries (Amateur Fishing) Regulations 1986 which are generally based on catch limits, size and method restrictions (MFish, 1995). From a recreational perspective, Akaroa Harbour has been identified as the closest rocky promontory to the population centre of Christchurch, and attracts more recreational fishing than elsewhere in the Southern region (MFish, 1991/1992). Akaroa Harbour is considered “the single most popular recreational fishing destination, with an estimated 13,000 to 17,000 fishing trips made there each year” (MFish, 1991/1992). Recreational fishing has also been identified as the most important activity for visitors and the community of Akaroa Harbour and Banks Peninsula, and significant value is placed on the ability to participate (Gabites Porter, 1994).

The most common forms of recreational fishing appear to be rod and line fishing from boats, set netting, and diving (MFish, 1991/1992). The species generally targeted include red cod

(*Peudophycis bachus*), mussels, (*mytilus edulis aoteanus*) and paua (*Haliotis iris*) (AHMPS, 1996, DoC 1994b). Because set netting is considered one of the most frequently used fishing methods around the Banks Peninsula marine environment, some recreational fishers were opposed to the establishment of the Banks Peninsula Marine Mammal Sanctuary because of the associated set netting restrictions. These restrictions included bans on set netting within the sanctuary during the breeding season (summer months) and on the mesh size of set nets (Miekle, 1999, pers. comm.).

The interests and values of recreational fishers are well represented in the Banks Peninsula by a range of resource user groups. These groups include the Akaroa Harbour Recreational Fishers Association (AHRFC), the Canterbury Recreational Marine Fishers Association (CRMFA), and the Set Net Action Group (SNAG). The depth of recreational fishing interest groups is indicative of the representation of recreational fishers in the Banks Peninsula area. Recreational fishing interests by far outweigh their commercial counterparts. On a single weekend up to 500 recreational fishers can be operating compared with less than 50 commercial fishers (Brown, 1999, pers. comm.). This is most likely because of the importance of Akaroa Harbour to recreational fishers, and the distance required by commercial fishers to travel offshore to fish for quota management species.

Tangata Whenua

As identified earlier, Ngai Tahu have had a long settlement history in Banks Peninsula and in Akaroa Harbour where Te Runanga o Onuku reside. This particular Runanga appear to have been the most influential in terms of participation in marine management of Akaroa Harbour. Te Runanga o Onuku have proposed the establishment of a Taiapure-Local Fishery in Akaroa

Harbour that would extend out and around the boundary of the Pohatu Marine Reserve. The justification for proposing a specific tool for managing the marine environment, is based on Maori fishing interests being heavily dependent on access to Akaroa Harbour to meet these needs.

As a response, Te Runanga o Onuku, with support from the Ngai Tahu Development Corporation are currently in the process of applying for this Taiapure–Local Fishery area where fish, shellfish and seaweed can be enhanced and managed using traditional Maori principles (Tainui, 1997). These principles include the protection of specific fishing grounds during certain times of the year, seeding shellfish area and transplanting seaweed (AHMPS, 1994). Taiapure–Local Fishery areas are managed to allow a sustainable take of marine life (therefore fishing is permitted). Many recreational and commercial fishers support the establishment of the Taiapure because they provide for recreational and commercial fishing, and aim to restock fish species to an abundant status, which has positive benefits for these resource user groups (Miekle, 1999 and Brown, 1999 pers. comm.).

4.4 The Banks Peninsula Marine Mammal Sanctuary

With the enactment of the Conservation Act 1987, the Department of Conservation assumed responsibility for the protection of marine mammals under the Marine Mammal Protection Act 1978 (MMPA), and the Marine Reserves Act 1971 (DoC, 1992:1). The MMPA gave DoC the power to establish marine mammal sanctuaries to protect threatened populations of marine mammals (DoC, 1992).

In 1988, New Zealand's first Marine Mammal Sanctuary (MMS) was created around Banks Peninsula to protect the endangered Hector's dolphin (*Cephalorhynchus hectori*) in response to their endangered species status, and the possible impacts of set net fishing on the species (DoC, 1992, 1994b, 1994c, 1996). Hector's dolphins are considered one of the world's rarest and most unique marine mammals and are only found within New Zealand waters, they are most prevalent in the Banks Peninsula marine area (DoC, 1992).

Concerns over the welfare of the dolphin species were raised due to the high mortality rate of the dolphins linked to their tendency to become entangled, and drown in set nets (DoC, 1992). In response, restrictions and seasonal bans on the use of set nets for commercial and recreational fishers were introduced within the MMS which extended over an area of (DoC, 1992, 1996). Frustration with the impact of the MMS on recreational fishing was high and many were opposed to the MMS because of the restrictions imposed. In response to the restrictions, the SNAG was established to oppose restrictions on the use of set nets, and the introduction of marine management mechanisms that affect commercial and recreational fishing (Gabites Porter, 1994).

4.5 The Akaroa Harbour Marine Reserve proposal

Based on the Marine Reserves Act, DoC is responsible for managing the conservation and protection values of marine environment. The process of developing a marine reserve proposal under the Marine Reserves Act 1971 is divided into two stages (see appendix 3) (DoC, 1994a). First is the non-statutory, or informal stage, and the second is the formal, statutory stage (DoC, 1994b: 5). While there is no formal requirement upon the applicant to undertake the non-

statutory process, past experience has shown that this stage is an effective way of identifying the issues of concern and involving the community at an early stage (DoC, 1994a: 5). Because of the extensive process for public consultation, the bulk of the applicant's work occurs in the informal stage (DoC, 1994a).

The public consultation process

The initial step towards developing a marine reserve proposal for Akaroa Harbour began in 1994. The publication of a discussion document seeking to obtain public opinion towards several marine reserve options for Akaroa Harbour was produced on behalf of the Friends of Banks Peninsula (hereafter FoBP) by its subsidiary interest group the AHMPS (AHMPS, 1994. Ward, 1999 pers. comm.). To develop the marine reserve proposal discussion document, the FoBP established a working group called the Akaroa Harbour Marine Conservation Working Group (hereafter the AHMCWG) to broadly scope the resource user interest, and inform all resource users of the proposal for a marine reserve in Akaroa Harbour.

Representatives from local community groups, dive clubs, recreational and commercial fishing interests, the five local Runanga of the Banks Peninsula area, marine conservationists, aquaculturalists, recreational surface users and commercial tour operators participated in the document's development. The process was facilitated by the North Canterbury Conservation Board (AHMPS, 1994). In addition, local authorities and government agencies were involved in the consultation process (AHMPS, 1994).

It was hoped that the discussion document would provide the AHMCWG with an insight into public opinion towards a marine reserve in Akaroa Harbour. If a firm basis of support could be

Significant feedback was obtained from the initial survey, and a total of 2,444 responses were received with 709 objections and 2383 submissions in support of a marine reserve (Gabites Porter, 1994). The key concerns with the marine reserve application are identified below. While the survey respondents failed to identify a clear preference over the location of a marine reserve, the responses supported, and identified issues to be further clarified for a marine reserve proposal¹.

Figure Nine Key concerns expressed by those opposed to the Akaroa Harbour Marine Reserve (adapted from AHMPS, 1998a)

Key concerns expressed by those opposed to the Akaroa Harbour marine reserve	
1) Interferes with existing rights of navigation	7) Effect on commercial fishing
2) Loss of recreational fishing opportunity	8) Contrary to the public interest
3) The location of the marine reserve	9) Safety of small boats compromised
4) Does not fit the criteria of Marine Reserves Act	
5) The proposed site interferes with wahi tapu	
6) The establishment of a marine reserve is in conflict with the principles of Taiapure	

Many of the objections were a result of misinterpretation of the range of activities permitted and prohibited within marine reserves. These included interfering with the rights of navigation and other concerns over anchoring, and the undue effect on commercial fishing based on the needs to relocate fishing effort, navigation problems and site selection. The loss of recreational fishing appeared to be the strongest concern. The applicant accepted that a conflict with recreational fishing and seafood gathering would be inevitable with any marine reserve proposal in an area such as Akaroa Harbour. According to the submissions opposing the reserve, many believed that

¹ Two options were identified for possible marine reserve sites in Akaroa Harbour. The first would have protected a representative area of the head, middle and outer Akaroa Harbour, and therefore protect the greatest range of marine habitats and ecological diversity (Gabites Porter, 1994:2). The second option would protect a representative area of the middle and outer harbours (Gabites Porter, 1994:3).

the whole harbour or its majority was to be reserved. The marine reserve area proposed was to cover 12% of the harbour, and therefore suggests a breakdown in information or interpretation.

Objections were received from Onuku and Wairewa Runanga expressing concern over wahi tapu area within the reserve, and the conflict between marine reserve and Taiapure (Grimshaw, 1999 pers. comm. Gabites Porter, 1994). Ngai Tahu, who provided the overarching support for the above Runanga stated that they did not oppose the concept of a marine reserve on the condition that the location would not interfere negatively on traditional Maori fishing and marine conservation mechanisms (Gabites Porter, 1994).

Taiapure vs. marine reserves

It appeared that Ngai Tahu had become concerned with the numbers of marine reserves being established or proposed in the South Island (Grimshaw, 1999 pers. comm.). This concern was based on the preference of Taiapure over marine reserves. The preference was based on the scientific and non-extractive nature of marine reserves which may potentially limit customary fishing (Grimshaw, 1999 pers. comm.). Marine reserves are not as strongly supported by Maori because customary fishing rights cannot be guaranteed, despite the ability for the Minister of Conservation to make provisions for both customary and recreational fishing within marine reserves (Ballantine, 1991. Grimshaw, 1999 pers. comm.). It appears that this provision has yet to be tested (Grimshaw and Rutledge, 1999 pers. comm.). In contrast, the Fisheries Act 1996 through the establishment of Taiapure advisory groups can recommend that fishing be prohibited to replenish stock status through the use of rahui (Grimshaw, 1999 pers. comm.). By considering the possible range of prohibited and permitted activities identified under marine reserves and Taiapure defined here, it appears that both Taiapure and marine reserves can provide for the same needs. Despite this similarity, the 'labels' associated with these particular marine

management mechanisms, their origins and specific statutory frameworks appear to be a significant barrier to gaining acceptance of these tools for marine management by resource users.

The issue of marine management

The particular preference over one marine management mechanism for the Banks Peninsula marine area over another, when both can achieve the same or similar outcome highlights an important issue in the 'big picture' of marine management in New Zealand. If marine management tools are able to achieve similar goals, then why do they exist under separate statutory frameworks? In addition, why does conflict exist between the purposes of each, what impact is such a framework having on the ability to efficiently and effectively manage the marine environment, and how is such an approach inhibiting the pursuit of sustainable management of the marine environment?

It is possible that this fragmented approach to marine management, based on inconsistent statutory frameworks has the ability to polarise the arguments for and against specific marine management mechanisms based on the perceptions and understanding of these tools by the resource user. To minimise the conflict between marine management mechanisms that have the potential to provide for the needs of all resource users, the labels associated with these mechanisms, their statutory basis, and educating resource users about the purpose of these mechanisms, is required.

4.6 The Rapaki Bay Mataitai Reserve

The Rapaki Bay Mataitai Reserve and its management group is another example of a marine management mechanism developed to provide for the specific needs of a resource user, and in

It is possible that this fragmented approach to marine management, based on inconsistent statutory frameworks has the ability to polarise the arguments for and against specific marine management mechanisms based on the perceptions and understanding of these tools by the resource user. To minimise the conflict between marine management mechanisms that have the potential to provide for the needs of all resource users, the labels associated with these mechanisms, their statutory basis, and educating resource users about the purpose of these mechanisms, is required.

4.6 The Rapaki Bay Mataitai Reserve

The Rapaki Bay Mataitai Reserve and its management group is another example of a marine management mechanism developed to provide for the specific needs of a resource user, and in this case, a specific stakeholder group. The map on the following page provides an insight into the structure of the Mataitai. The concern about decline and threats to Rapaki kai moana has a long history and provided the key motivation for establishing a marine management mechanism to protect and manage the resource (Couch, 1999 pers. comm.). Articles as far back as 1952 proposed that the Rapaki pipi beds be protected as a Reserve (Couch, 1999 pers. comm.). The specific concept of a Mataitai Reserve was mooted and discussed generally from the time of Sealord Deal and the TOW (Fisheries Claims) Settlement Act 1992 and the subsequent attempts between 1993 and 1998 to get Customary Fishing Regulations approved (Couch, 1999 pers. comm.).

The Rapaki Runanga decided to apply for a Mataitai Reserve in December 1997 (Couch, 1999 pers. comm.). Some representatives from Rapaki attended a Canterbury Regional Council hui on



* Also includes:
 Whiting, Cod, Kahawai
 Salmon, Barracouda.

Crab fishing (Ratu Ratu).

gone: Paua, Concer Eels

● Kazisoo.

⊙ P.L.P.'s (Beds)

The Fish and Wildlife Ducks, Herons, Penguins
 seem to be on the increase since
 the Doc Ban began. Some 8 years ago.

⊙ Cockle (Beds) Returning

— Flounder Netting

--- Flounder Sole Netting

whitebait in Creek. (Season)

● Rock OYSTERS.

* Mango (in Season)

Oct - MAR. Doc Ban

Traditional Ground Head of Bay

●●● Mussels & Butu's

the proposed Regional Coastal Environment Plan. It was clear that Regional Council was not interested in classifying Rapaki kai moana areas as SG (Shellfish Gathering) (Couch, 1999 pers. comm.).

The situation was reported to Rapaki Runanga and recommendations were made to put the brakes on the deterioration of the kai moana areas and seek improvement in the kai moana habitat (Couch, 1999 pers. comm.). One of those recommendations was to apply to establish a Mataitai Reserve. There was an agreement between Runanga representatives and an application for a Mataitai Reserve was submitted in February 1998. The key motivating factor was clearly restoration of kai moana (Couch, 1999 pers. comm.).

Of major importance was the getting all those with interest in the harbour to support the Runanga in their Mataitai Reserve proposal. The support generated within the local community towards the Mataitai was apparent in December 1998, when the official designation of the Mataitai occurred. "I can't think of any interest which did not join us to celebrate" (Couch, 1999 pers. comm.). Banks Peninsula District Council, Canterbury Regional Council, the Royal Forest & Bird Protection Society, Te Papa Atawhai (DoC), MFish, Lyttelton Commercial Fishermen, Port Company, Local MP-David Carter, Customary Fishing Group, Governors' Bay residents, neighbouring Bays residents (Couch, 1999 pers. comm.).

The management objectives of the Mataitai are based on:

Restoration of kai moana, both quantitatively & qualitatively.

Improvement in water quality within the Harbour

Working with our neighbours to achieve our goals, which are often theirs too

(Couch, 1999 pers. comm.).

The management arrangement for Mataitai formally consists of the two tangata tiaki, however, in practice, anyone in Rapaki with an interest may be involved. According to Couch (1999), the Mataitai would preferably be self-managed, but in partnership arrangements are acceptable considering that similar goals for the management of marine environment exist between resource users and the local community.

4.7 The Flea Bay Marine Reserve proposal

The Canterbury Recreational Marine Fishers Association (CRMFA) and the AHRFC made a joint proposal for a marine reserve at Flea Bay in December 1996. Unlike the AHMPS proposal, the Flea Bay application bypassed the time consuming non-statutory, informal consultation process that occurred during the years prior to the Akaroa Harbour proposal. Based on secondary research from previous surveys undertaken, the applicant acknowledged that more than 58% of respondents preferred a marine reserve outside the Akaroa Harbour (CRMFA and AHRFC, 1996). The applicants considered the feelings expressed by the public towards the Akaroa Harbour proposal and offered the Flea Bay site as an alternative to Akaroa Harbour. The Flea Bay proposal was based on the support from recreational and commercial fishers for a marine reserve on the Peninsula in an area that was more representative of the Canterbury coastline. The Flea Bay location was suggested, based on its coastal and marine biodiversity including nationally significant specific such as the yellow-eyed penguin, and the white flippered penguin. (AHRFC and CRMFA, 1996).

A significant number of submissions in support of the proposal, and few objections were received. Of the 387 submissions received, 371 or 95.9% were in support, while 9 (2.3%) were outright objections, and 7 (1.8%) were conditional objections (DGC, 1998). The Flea Bay proposal provided some additional benefits to the Akaroa Harbour site such as a relatively isolated location (Brown, 1999 pers. comm. Mickle, 1999 pers. comm.). The Flea Bay location also alleviated concerns over the Akaroa Harbour proposal's impact on recreational fishing.

An issue presented itself where two marine reserve applications for the Banks Peninsula area had been formally proposed. The catalyst for a decision on the most appropriate location for a marine reserve appears to have come from the strong commitment and initiative from the Minister of Conservation, Dr. Nick Smith (pers. comm. Rutledge, 1999. Grimshaw, 1999.). In the process of considering the strengths and weaknesses of the proposals based on their ecological representativeness, impact on recreational fishing, and conflict with Taiapure proposals, the Minister appears to have placed significant effort into bringing the key resource users groups to the discussion table (Grimshaw, 1999 pers. comm.).

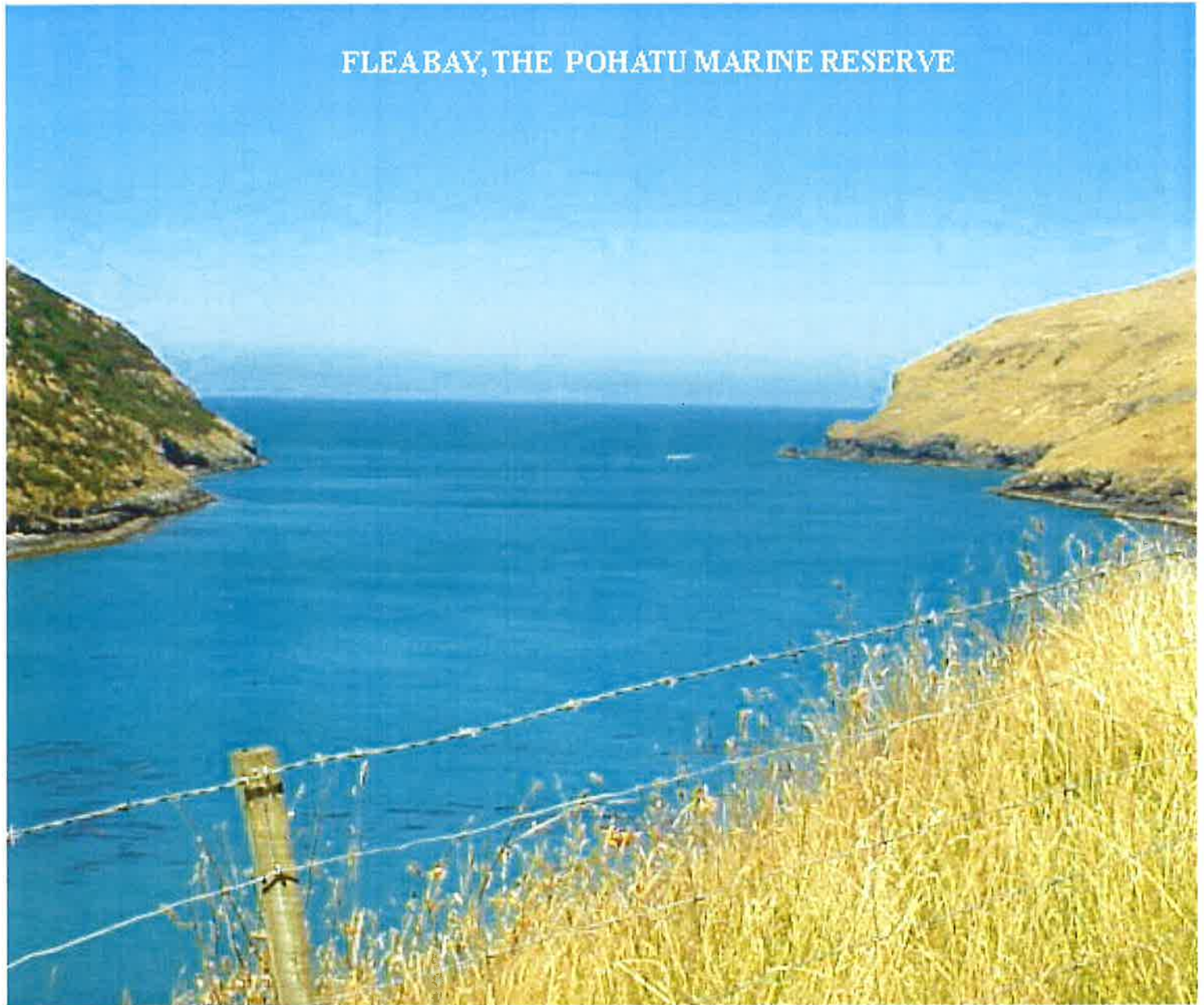
As identified previously, TRONT and the Te Runanga o Onuku had reservations over the establishment of marine reserves based on the preference for Taiapure. To manage this conflict, DoC, led by its Minister, promoted the joint commitment to developing a relationship between DoC and TRONT, and establishing the ground rules for management arrangements to meet the needs of each. This arrangement provides an example of the partnership agreements advocated within the Deed of Settlement Act.

In addition, the Minister made several visits to the Banks Peninsula and proposed marine reserve sites (Brown, 1999 pers. comm. Grimshaw, 1999 pers. comm.). By actively visiting the site and meeting with the applicants; the communication between Tangata Whenua, recreational fishers, resource users and the Minister reopened lines of communication and facilitated further discussion over the location of a marine reserve (Grimshaw, 1999 pers. comm., Rutledge, 1999 pers. comm.).

Creating the potential for marine co-management

It appears that the tenacity of the Minister and his active pursuit of a resolution for the marine reserve issue was extremely effective in terms of reaching an acceptable solution. This was based on a willingness to encourage discussion between participants to reach a compromise over the location of a reserve (Grimshaw, 1999 pers. comm., Rutledge, 1999 pers. comm.). Based on these discussions, a preference towards the Flea Bay proposal developed. This preference eventually evolved into a decision by the Minister to establish a marine reserve at Flea Bay. The marine reserve at Flea Bay, named the Pohatu Marine Reserve was opened on the 5th of July 1999. The photograph on the following page shows Flea Bay, the location of the Pohatu Marine Reserve.

FLEABAY, THE POHATU MARINE RESERVE



The establishment of a marine reserve within the Banks Peninsula marine environment has been a significant achievement. Despite this, the process for reaching the decision may have a far greater impact in terms of the larger picture for the future of marine management in the Banks Peninsula. Because of the willingness of participants to educate, discuss, and consider compromises between one another over the mechanisms employed to manage the marine environment, the potential to facilitate successful co-management arrangements is realised.

By providing a strong supportive role, the Minister of Conservation has made the initial steps towards developing a strong partnership between the Crown and resource users/stakeholders in marine management. In addition, by bringing the key stakeholder groups together, the Minister has developed lines of communication between the stakeholders and government agencies involved with marine management. Having identified these partnerships and means of communication, a forum for understanding the needs of different resource users in the pursuit of co-management was created.

Marine management arrangements

The under the statutory provisions of the Marine Reserves Act 1971, a management committee is required in order to manage the reserve and make recommendations for the management of the reserve to the DGC. The management plan for the Pohatu Marine Reserve has not yet been finalised but follows a framework for marine reserve advisory committees based on existing reserve management frameworks. The range of representatives included in the Pohatu advisory committee is likely to be similar to the AHMCWG and support their work on the development of a Banks Peninsula Fisheries Plan (BPFP). Those likely to participate include:

- ✘ Tangata Whenua (including representation of the local Runanga of Banks Peninsula)
- ✘ Community representatives (Local Resident's Associations)
- ✘ Local authorities (Banks Peninsula District Council)
- ✘ Government agencies (MFish, DoC)
- ✘ Ngai Tahu Development corporation
- ✘ Resource users (including representatives from AHRFC, CRMFA, commercial fishers)
- ✘ Community groups (AHMCWG, AHMPS and the BPFWG)
- ✘ Environmental groups (New Zealand Forest and Bird Protection Society)

(BPFWG, 1997)

4.8 Taiapure-Local Fishery proposal

Te Runanga o Onuku (Akaroa) submitted the first draft application for a Taiapure-Local Fishery for Akaroa Harbour in 1997. The proposal was made by Te Runanga o Onuku with support from TRONT. This application envisaged that better recognition on rangatiratanga (chieftanship) could be achieved. The Taiapure-Local Fishery proposal encompasses those waters of Akaroa Harbour and Haylocks Bay. The proposed Taiapure-Local Fishery would encompass rohe moana (coastal waters) over which the Onuku Runanga hold kaitiaki. The Taiapure would also surround the entrance to the Pohatu Marine Reserve (Rutledge, 1999a. pers. comm.).

The justification for the proposal is based on the loss of environmental quality and species diversity in the area (Tainui, 1997). The applicants believe that people within the Akaroa Harbour area have "often acted with little understanding of ecological processes and systems of the coastal environment" (Tainui, 1997:13). The result has been loss of environmental quality

and lowering of the abundance and diversity of species” (Tainui 1997). Fish stocks, landscape, habitats, biodiversity, water quality, sediment sources and other coastal resources, being finite, have been degraded from their lack of conservation and management (Tainui, 1997).

The establishment of a Taiapure-Local Fishery “is likely to have the effect of restoring the ability of Iwi to harvest fish to meet its needs and restore a degree of control of the fishery to their hands” (Tainui, 1997:8-9). In order to better conserve and manage the resource with respect, the applicant believes “that the marine environment requires respect and care so that benefits can be gained today, without compromising the ability of future generations to also benefit from them” (Tainui, 1997:14). The applicants believe that the introduction of a localised area management group with management controls, and a policy of restocking and enhancing stocks that have been depleted, can only result in the restoration of a healthy, abundant and sustainable local fishery (Tainui, 1997:9).

Taiapure-Local Fishery proposed management structure

Under the Fisheries Act 1996, the Taiapure-Local Fishery proposed would be controlled by a locally based management committee comprised of members of Onuku Runanga, and various local interest parties (Tainui, 1997). Like other marine management committees, such as the BPFWG, the Taiapure committee is expected to comprise representatives from the Akaroa Harbour Fisheries Association and aquaculture interests, AHRFC, and CRMFA (Tainui, 1997). In addition, the management committee is proposed to work in association with relevant Crown agencies, such as MFish and DoC, to develop regulations for managing the marine environment of Banks Peninsula with the Minister of Fisheries, and the BPFWG (Tainui, 1997).

Whilst achieving the specific goals of Tangata Whenua, the needs of other resource users are also accommodated within the Taiapure proposal. The primary objective of the Taiapure–Local Fishery is to maintain and increase the fish stocks to provide an adequate harvest for both customary and recreational fishing. As such, recreational fishing interests within the area support the Taiapure proposal. The Taiapure proposal is not intended to have any impact on commercial fishing and has the support of local commercial fishers. The objective to replenish and rebuild fish stocks and maintain them at previous levels while allowing for a sustainable harvest, suggests that the establishment of a Taiapure-Local Fishery would also be consistent with the interests of conservation groups (Tainui, 1997: 10-11).

4.9 User perceptions of marine management mechanisms

A dominant theme in the above discussion is that divergent perceptions of marine management mechanisms by resource users have inhibited the ability to implement them efficiently and effectively. Different stakeholder groups have opposed the proposals for marine reserves, Taiapure, marine mammal sanctuaries and Mataitai Reserves. Often, and especially in the case of marine reserves, this has been based on the legislative framework under which they were proposed.

Opposition towards the establishment of a marine reserve in Banks Peninsula was based on the statutory purpose of marine reserves. In addition, opposers highlighted concerns over the undue affect of marine reserves on recreational fishers. Some of this opposition could be attributed to a lack of understanding or willingness to utilise the range of prohibited and permitted activities, including the ability to grant fishing rights under the Marine Reserves Act.

From a Tangata Whenua perspective, TRONT had reservations towards the establishment of marine reserves over Taiapure due to their scientific nature and fish harvesting issues. Because marine reserves and Taiapure can provide for exactly the same needs of resource users, but also recognise the need to conserve the resource, the two different and seemingly competing mechanisms are able to achieve the same or similar goals.

This suggests that the tools implemented within these mechanisms are very similar, yet the labels, perceptions, and statutory frameworks responsible for these marine management mechanisms may be the barriers inhibiting co-management of the marine environment. To break down these barriers, it appears that a move away from the titles and 'baggage' of these mechanisms may contribute to more effective marine management in Banks Peninsula.

Because the mechanisms advocated by each resource user perspective differs, conflicts may occur over the perception and origin of the tool, rather than focussing on what it is aiming to achieve. Grimshaw (pers. comm. 1999) suggests dispensing with the 'titles' of these various statutes for marine management and instead dealing with co-managing the functions of these statutes in an integrated way. Marine co-management therefore requires an element of compromise, in terms of meeting the needs of resource users, rather than being restricted to the use of one mechanism under specific statutory frameworks (Grimshaw and Rutledge, 1999 pers. comm.).

4.10 Conclusion

This Chapter provided a history of the Banks Peninsula area, an identification of the various resource users and interest groups, and the marine management mechanisms and agencies responsible for their implementation. Following this, the key stakeholders in the management of the marine environment of Akaroa Harbour were identified.

The rationale and barriers behind the proposal and establishment of the marine management mechanisms of the Banks Peninsula marine environment were discussed. From this, the barriers and arrangements that may inhibit a shift towards co-management of the Banks Peninsula marine environment were identified. In addition, the establishment of partnership arrangements between resource users and the Crown suggest that the barriers to successful marine co-management may be overcome.

The following chapter provides an analysis of the Pohatu Marine Reserve and marine management mechanisms within Banks Peninsula against the criteria for successful co-management. From this analysis, it is hoped that options and recommendations for breaking down the barriers to successful co-management can be defined.

Chapter Five

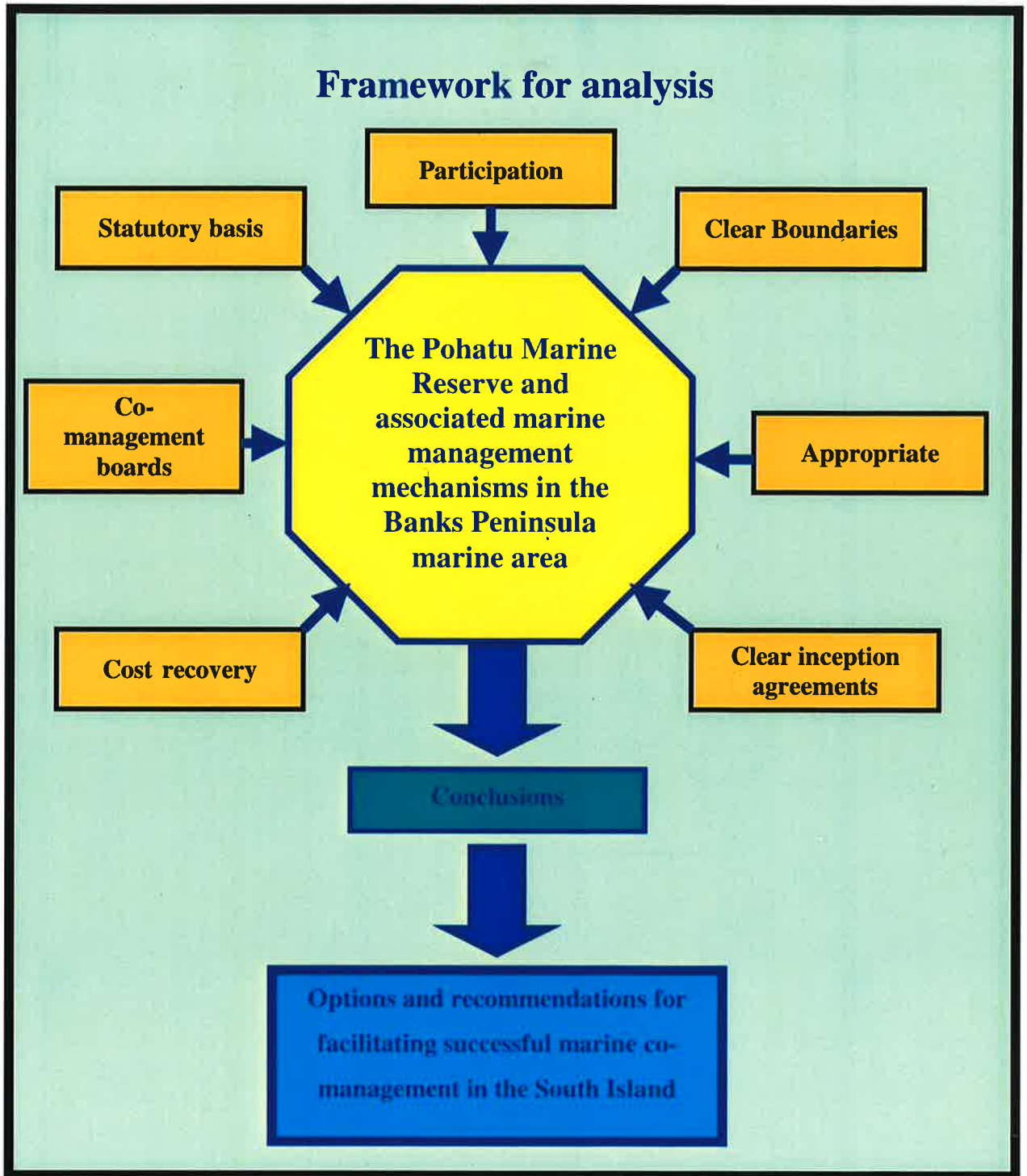
An evaluation of the Pohatu Marine Reserve against the criteria for successful co-management

5.1 Framework for analysis

This Chapter evaluates the Pohatu Marine Reserve against the criteria for successful co-management arrangements. Figure Ten provides a visual representation of how the analysis will proceed as a basis for generating options and recommendations for improving marine management in Chapter Six. The potential success of establishing the Pohatu Marine Reserve, in conjunction with other marine management mechanisms, as co-management arrangements can make a meaningful contribution to marine co-management in the Banks Peninsula, and also for the greater South Island.

Enhanced marine co-management for the South Island can progress from the existing co-management arrangements that behave as vehicles to pursue the goal of sustainable management. It is demonstrated that the co-management arrangement proposed for the Pohatu Marine Reserve, in partnership with other co-management arrangements in the Banks Peninsula marine environment, may set a precedence for marine co-management arrangements for the South Island. Such co-management arrangements are based on accommodating the needs of resource users rather than operating under separate statutory frameworks and management mechanisms.

Figure Ten The analysis process for Chapter Five, as a basis for the identification of options and recommendation for Chapter Six



The Banks Peninsula marine area provides a case study for how effective such a framework may be for advocating inclusive marine co-management arrangements elsewhere in the South Island. From the background provided in Chapter Four and this analysis, options and recommendations for a co-management framework for the marine environment of Banks Peninsula are made. If successful, this framework could evolve into a template for co-management arrangements applicable throughout the South Island.

5.2 Analysis

Participation

The participation criterion is fulfilled if all stakeholders, interest parties and resource users are able to participate in decision-making and management of the resource. By fulfilling the characteristics for participation, the participants may develop an improved sense of ownership over the resource knowing that their needs are being accommodated.

In the Pohatu Marine Reserve case study, participants represented a broad range of commercial and recreational fishers-represented through the AHRFC and CRMFA, local recreationalists (non-fishing), all local Runanga, and community groups. Resource users were comprehensively represented through the consultation undertaken throughout the non-statutory and statutory stages of the marine reserve proposal with the AHMCWG, BPFWG and AHMPS.

The opportunities for ongoing consultation and participation in the proposal process for the marine reserve were substantial. The ongoing consultation and compromise prior to the application for the Akaroa Harbour marine reserve is evidence of this. The production

of “A Marine Reserve in Akaroa Harbour?” Discussion Document facilitated significant public discussion and compromise over the possible location of a marine reserve. In addition, the composition of the AHMCWG, who were responsible for developing the discussion document, was highly representative and included all major resource user groups, interested parties and local stakeholders. This suggests that the discussion document was considered from a range of perspectives, and the needs of all resource users were considered.

Fulfilling the participation criterion is strengthened by the existence of well-established management arrangements for managing the Banks Peninsula marine environment. The composition of the AHMCWG to develop the marine reserve proposal is one such example. The BPFWG, established to develop the Banks Peninsula Fisheries Plan is another example of a co-management arrangement in the area providing for the participation of resource users. The BPFWG, like the AHMCWG is highly representative and was therefore required to take into consideration differing perspectives towards the management of the marine environment. The BPFWG will also participate in the management of the Pohatu Marine Reserve and Taiapure proposals by integrating their principles into the Banks Peninsula Fisheries Plan (BPPF). This suggests that the BPPF will develop as a crucial component within the co-management of the Banks Peninsula marine environment.

Because the range of interest groups represented local resource users, interested parties and the community, broad stakeholder participation in the management and decision-making for the marine reserve was achieved. The statutory requirement for proposing the

marine reserve required considerable public consultation and participation, and contributes to fulfilling the participation criterion.

The working groups and resource users discussed above also enhance fulfilment of the criterion from another perspective. Because of the desire to manage and conserve the marine environment for the needs of current users (Maori, recreational and commercial fishers and others), but also maintain this abundance for future generations, it appears that the participants are committed to addressing resource sustainability issues. Further evidence of this is the tools established and proposed within the Banks Peninsula marine environment provide for the conservation and sustainable management of the resource. Taiapure, Mataitai, rahui, marine reserves and to an extent the QMS all have the ability to restrict or prohibit fishing or extraction in order to replenish the resource and therefore contribute to the sustainable management of the marine environment and fisheries resources.

Clear boundaries

The criterion for clearly defined boundaries is fulfilled if a co-management arrangement can set aside areas for exclusive use and management of the resource user. Fulfilment of this criterion is enhanced if different boundaries can be created for different requirements within the co-management area. This is based on the accommodating the needs of different resource users within the co-management area. This can achieve a feeling of stewardship over the resource by setting aside particular areas of the marine environment to meet specific needs of resource users.

In the geographical sense, the Pohatu Marine Reserve is a particularly isolated and somewhat inaccessible bay on the outskirts of Banks Peninsula. Flea Bay can be reached either by boat from the Akaroa Heads, via four-wheel drive, or on foot. As such, an example of a clearly defined boundary is Flea Bay, which sets aside a very specific area for the Pohatu Marine Reserve. The mouth of Flea Bay area is defined with buoys and markers. The placement of these buoys in conjunction with the geological shape of the reserve indicates the boundary.

In terms of the management of the Banks Peninsula marine environment, other clearly defined barriers for marine management mechanisms exist. These include the clearly defined boundaries for the Mātaitai Reserve at Rapaki Bay, and the well publicised boundaries of the MMS. Considering that clearly defined boundaries exist within the Banks Peninsula marine area, that set aside exclusive areas of the marine environment for specific purposes, the criterion for clearly defined boundaries appears fulfilled.

In addition to these marine management mechanisms, the Taiapure proposal for Akaroa Harbour aims to meet the boundary of the Pohatu Marine Reserve and continue around the Akaroa Heads and throughout Akaroa Harbour. In effect, this Taiapure proposal supports the boundary of the marine reserve, and then contributes to the marine management of Akaroa Harbour based on the proposed marine management principles.

The Taiapure proposal can be seen as a commitment to accommodating the needs of Tangata Whenua, whilst meeting the needs of other resource users, by supporting the Flea Bay Marine Reserve through meeting its boundary. Because the needs of both resource users are respected, the clearly defined boundaries of the marine reserve and

Taiapure contribute to a potentially successful co-management arrangement, and ensure that the criterion is fulfilled.

The fact that the proposed Taiapure and Pohatu Marine Reserve may potentially co-exist, and may permit some similar activities between them, suggests that it may be possible to incorporate the management of each into an overarching co-management arrangement. Such a co-management arrangement could still identify exclusive areas of the marine environment for particular needs through clearly defined boundaries within Banks Peninsula, and may in turn enhance the effectiveness and efficiency of the co-management arrangement. It is believed that an improvement in both the efficiency and effectiveness of the management arrangement may be achieved by:

- ✦ minimising the communication processes between the Taiapure and marine reserve management groups,
- ✦ achieve a more efficient use of resources, and
- ✦ place fewer demands on the time and resources of stakeholders participating in the management of both.

Therefore, the researcher considers the possibility of integrating the management arrangements for the Taiapure and marine reserves, and suggests that marine co-management could be based on accommodating the needs of resource users as an alternative to operating under the currently fragmented statutory frameworks for marine management. A shift away from the statutory bases for marine management of the Fisheries Act 1996 and the Marine Reserves Act 1971 would be advocated. Alternatively, a shift towards the development of a marine co-management framework based on accommodating the needs of the resource users could shape the marine management. The

potential would exist to achieve autonomy amongst resource users by removing the limitations apparent between inconsistent marine management statutes. In order to achieve this, the framework for marine management, and marine management mechanisms as they currently exist would require amendment.

Appropriate Scale

The criterion for appropriate scale is fulfilled if the size of the area is proportionate to the number of participants involved in its management. Appropriate scale takes into consideration whether the perspectives and needs of all resource users are accommodated within the management arrangement. If this cannot be fulfilled, the willingness of that particular resource user to accommodate the needs of others is likely to diminish.

The Pohatu Marine Reserve can be considered relatively small (210 ha) when compared to other marine reserves gazetted within New Zealand waters. Despite this, the composition of participants proposed for managing the reserve will be consistent with and based on, existing frameworks for marine reserve management committees. Those most likely to be involved in the management of the Pohatu Marine Reserve were identified in Chapter Four. Based on previous frameworks for the composition of marine reserve management committees, the management group selected by the Department of Conservation for the Pohatu Reserve will proportionately reflect the size of the marine reserve.

While the marine reserve management group is yet to be finalised, its scale is most likely to be proportionate to the size, location and impact of the marine reserve on the surrounding Banks Peninsula marine environment on resource users. Because the

framework for the management group is based on similar marine reserve management frameworks currently in place, the generic framework adopted for identifying marine reserve management committees is an example of setting management groups to an appropriate scale for the management requirement. As such, there is little to suggest that the Pohatu Marine Reserve management group will not fulfil this criterion.

Discussion facilitated by the Minister of Conservation over the establishment of a marine reserve within the Banks Peninsula marine environment has contributed to fulfilling the criterion for appropriate scale. By drawing together key resource user groups of the Akaroa Harbour marine environment, including Tangata Whenua, recreational and commercial fishers, the Department of Conservation and Ministry of Fisheries, partnership arrangements and communication between these groups was facilitated. Establishing these lines of communication contribute to fulfilling the criterion by identifying resource users who should participate in the management of the Pohatu Marine Reserve, but also the needs of these participants in terms of marine management. Recognising these needs ensures that they will be acknowledged and respected in the management of the Pohatu Marine Reserve.

Clear inception agreements

To fulfil this criterion, incentives are required to facilitate participation and provide resource user groups and stakeholders with some benefits from their participation in the management of the resource. In the case of Banks Peninsula, many stakeholder groups are involved in the management of the marine environment from different perspectives. It is important that the benefits of the management arrangement reach those within the co-management arrangement, rather than be captured by intercepting parties.

It appears that much of the incentive for participation in the management of the marine environment has been borne out of concern for not having access to, or management of, a resource that is of particular value to a specific resource user group. An example of this is the concerns expressed by recreational fishers over the Akaroa Harbour Marine Reserve proposal and Banks Peninsula MMS over the potential loss of recreational fishing areas.

This anxiety over loss of access or ability to fish has tended to dominate marine management issues in the Banks Peninsula area, and therefore appears to be the single greatest incentive for participation in the management of the marine environment. From recreational, commercial and customary fishing perspectives, the ability to extract fish from the marine environment is crucial. The incentive to maintain the ability to fish either commercially, recreationally or under customary provisions has manifested into the proposal of, or opposition to various marine management mechanisms. The proposals for Mataitai and Taiapure were created to restore fisheries stocks and provide for customary fishing for local Maori. This suggests that the key incentives for proposing these marine management mechanisms were focussed on meeting the needs of customary fishers.

Therefore, the incentives for participating in the management of the Banks Peninsula marine environment have generally been based on recognising and accommodating the needs of resource users. Incentives for participating in the management of the Pohatu Marine Reserve may include enhancing the ability of Flea Bay to fulfil they criteria within the Marine Reserves Act 1971. In addition, the incentive to participate in the management of the proposed Taiapure may be motivated by a desire to contribute to replenishing the fisheries resources of Akaroa Harbour. As such, the benefits of

participating in the management of the marine reserve, and proposed will reach the resource user.

Cost recovery

The criterion of cost recovery is fulfilled if co-management arrangements can capture some of the benefits from the management of the resource. Benefits may include enhancement, habitat protection and improved stock management. Cost recovery may be viewed as another incentive for participation in the co-management arrangement. In terms of the Pohatu Marine Reserve and marine environment of Banks Peninsula cost recovery may be achieved through the goals for managing the resource, and could be further achieved with the provision for recreational, commercial and customary fishing in the Taiapure proposal. In the longer term, the enhancement of fish stocks may provide another form of cost recovery for fishers.

From another perspective, cost recovery can be achieved if the costs associated with proposing, implementing, and managing the marine environment can be partially recouped by the co-management participants. In order to achieve this, the statutory basis for some marine management mechanisms will require amendment. Currently, the Conservation Act 1987 provides financial assistance for terrestrial conservation management arrangements. Similarly, the Fisheries Act 1996 provides financial relief for participants in Taiapure-Local Fishery management groups. In contrast, those involved in managing marine reserves are not financially supported.

Therefore, discrepancies may occur between resource user groups advocating marine reserves, and the Department of Conservation, who is responsible for the Marine

Reserves Act. Additionally, the relationship between DoC and other marine management agencies (MFish) and to an extent Te Runanga o Ngai Tahu may be tested if support for marine management does not willingly come from central government. MFish advocates the devolution of fisheries management to the stakeholder and resource user level through support for co-management arrangements without providing the financial support to facilitate this. Consequently, from a community level the resource user is acquiring significant responsibility without the financial support to successfully achieve its goals. Meanwhile, central government is stepping back from direct involvement in marine and fisheries management, without providing for the needs of those acquiring greater responsibility. For reasons of transparency, financial support for co-management arrangements, regardless of the statutory framework under which they were developed, should be made available.

Partial cost recovery can provide for broadening management functions and capabilities, therefore enhancing the ability of the co-management arrangement to provide for the needs of resource users. Because the Fisheries Act 1996 already provides for cost recovery for Taiapure arrangements in the form of financial support for management participants, and other statutory frameworks (the Marine Reserves Act 1971) do not, a valid argument exists for integrating the marine management mechanisms.

Providing cost recovery is a statutory requirement. Because MFish has identified the desire to shift towards co-management arrangements for the management of fisheries resources, this appears to be the most valid statutory framework under which to provide a legal basis for cost recovery co-management. In order to do so, significant work would be required for defining and analysing how co-management arrangements (including marine

management mechanisms with similar goals of the Marine Reserves Act) would operate.

Based on the comments of MFish, this appears to some way off.

Clear definition of local powers

To fulfil this criterion, and facilitate a greater feeling of ownership and stewardship the status of management groups and level of control over the decisions that are made require statutory definition. In order to achieve successful co-management, local management boards require a clarification of their rights and an assurance that their work will not be disrupted or overtaken by external forces. To effectively rule this out, co-management boards must be given a clear legal definition. By doing so, a level of control and responsibility is passed over to the management group. In turn, this can lead to a greater sense of ownership and stewardship over the resource that they are responsible for managing.

The respective statutory frameworks for groups managing Mataitai, Taiapure and Marine Reserves provide for an advisory role. An advisory role allows management groups to make recommendations for managing the marine environment within the boundaries set. The Minister of Fisheries considers the recommendations and makes decisions for the management of that particular area based on these. In terms of how influential the recommendations from working groups are, it is unlikely that the Minister will discard recommendations made by working groups because of the need to maintain strong partnership arrangements between stakeholders, support agencies and central government. These partnership agreements, especially between Te Runanga o Ngai Tahu, the Ministry of Fisheries and the Department of Conservation are particularly important for advancing co-management arrangements for the marine environment and fisheries

resources. Because of the legislative mandate of these three partners in marine and fisheries management, and by upholding the principles of sustainable fisheries management and marine conservation within them, the recommendations made should be consistent. In order to further integrate marine conservation into marine and fisheries management, the Marine Reserves Act may need to be re-established under the Fisheries Act 1996 or other statutory arrangements for the marine environment.

In terms of the statutory powers of co-management arrangements, because the groups established under the Fisheries Act and Marine Reserves Act are given an advisory role, they are unable to have complete governance and control over the resource. This suggests that successful co-management is not achieved in the sense of fulfilling the definition of co-management identified previously. Because of the predominantly advisory role held by such management groups, they fit within the category of advisory management. Despite this, advisory groups are still to some degree capable of successful co-management in the sense that they provide for the needs and values of all resource users.

Co-management boards

The criterion for co-management boards is fulfilled if management boards can provide the forum for discussion of all local resource management issues, development plans and management practices. The process can be more effective if all participants work collectively to address marine management issues. The existence of highly representative management boards for the Pohatu Marine Reserve and other marine management mechanisms within the Banks Peninsula marine environment, that aim to accommodate the needs of the resource users, suggests that this criterion has been fulfilled. Despite fulfilling the criterion, issues related to the variety of marine management arrangements

that exist within the Banks Peninsula marine environment may discourage the effectiveness of successful co-management.

Three marine management arrangements operate within the Banks Peninsula marine environment, the Rapaki Bay Mātaitai Reserve, Pohatu Marine Reserve, and the Banks Peninsula Marine Mammal Sanctuary. A fourth, the Taiapure-Local Fishery, is proposed. In addition, the existence of the BPFWG suggests that there may be more marine management arrangements than are required for the Banks Peninsula marine environment.

As identified previously, these mechanisms are, in effect, aiming to achieve similar goals—the sustainable use and management of the marine environment and fisheries resources to accommodate the specific needs of resource users. The differences between each mechanism are based on different management arrangements, the needs of resource users, and different statutory bases. It is possible that the range of marine management arrangements may be superfluous to effectively and efficiently managing the marine environment. It is possible that the existence of four marine management arrangements may inhibit important characteristics of successful co-management from occurring.

The existence of separate marine management arrangements, based on differing statutory frameworks, suggests that reaching compromise between these management arrangements over the marine environment may become more complex. As a result, marine management arrangements may in fact be advocating the same or similar outcomes, but conflict on the basis of their statutory requirements.

In addition, the predisposition towards certain marine management mechanisms over others may not be removed if marine management mechanisms are proposed and managed separately. Because the objective of co-management is to accommodate the needs of all resource users, without removing the barriers between mechanisms in pursuit of similar goals, co-management arrangements cannot be improved.

If the range of marine management arrangements were combined, the barriers that exist towards specific mechanisms for managing the marine environment could be minimised. In addition, the statutory frameworks for marine management would require amendment. Rather than maintaining the fragmented and inconsistent frameworks of existing marine management mechanisms, management arrangements could alternatively be developed based on accommodating the needs and values of resource users. Separate statutory arrangements for marine management mechanisms may be both inefficient and ineffective for managing the marine environment if support agencies were required to provide the same facilitation, servicing and advisory roles to each management arrangement.

The criterion for co-management boards in the pursuit of successful co-management arrangements is fulfilled in the Pohatu Marine Reserve case study and is also done so in the wider context of marine management in the Banks Peninsula marine environment. To alleviate the potential lack of horizontal integration between marine management arrangements, it is proposed that to facilitate successful co-management of the marine environment and fisheries resources of Banks Peninsula, the management of the marine environment is integrated to become more inclusive, and therefore more efficient and effective.

This could be achieved by integrating marine management arrangements with the BPFWG and therefore including the management of the marine environment within the fisheries management plan. The needs of all resource users would be maintained, and continue to be acknowledged and represented within the BPFWG. In addition, the management of the marine environment would be able to provide for the specific needs of the resource users in an overarching framework rather than within separate management groups. This may also contribute to removing the barriers towards specific, polarised approaches to marine management and instead focus on accommodating the needs of resource users through tools within Mātaitai, Taiapure and marine reserves- without the conflicts associated with these marine management mechanisms.

To achieve this, the statutory frameworks for marine management, such as the Marine Reserves Act 1971, would require integration into existing marine management and fisheries legislation. The Fisheries Act 1996 may therefore become more comprehensive and further provide for the ‘conservation’ component within the definition of “sustainable utilisation” fisheries resources.

5.3 Conclusion

On the basis of the above discussion the Pohatu Marine Reserve process and management framework are considered to have fulfilled all criteria and have therefore contributed to a co-management arrangement. Despite this, a number of barriers for achieving successful co-management within the marine environment were identified in the Pohatu Marine Reserve case study.

While the motivation to participate in co-management arrangements through working groups and public consultation appears strong, the framework for facilitating co-management is weak. This is because the statutory framework for marine management is inconsistent between the marine management mechanisms provided within fisheries and marine management legislation. The inconsistencies between the various statutory frameworks for marine and fisheries co-management, based on the Fisheries Act, TOW (FC) SA 1992 and the Marine Reserves Act 1971, inhibit the ability for the marine management mechanisms to be efficiently and effectively implemented. Of particular concern are discrepancies over the financial support available for management groups operating under these statutory frameworks.

In addition, the consistency between the marine management mechanisms themselves is not recognised. The pursuit of sustainable management of the marine environment, and fisheries resources while making provision for the needs and values of extractive resource users through co-management, appears to be the key motivation behind each of the key marine management mechanisms discussed. Despite this, the advocacy, origins and perceptions towards these mechanisms differs so greatly that they are often viewed in opposition of one another, rather than desiring similar outcomes.

Understanding the purpose of marine reserves, Taiapure and Maitaitai is as much as a barrier as the process for establishing them under their different statutory frameworks. The Marine Reserves Act must be considered somewhat archaic and the purpose of marine reserves has evolved to provide a greater purpose than that based on the original statute. The Marine Reserves Act 1971 is not consistent with contemporary marine and

fisheries management legislation based on the unparalleled changes that have occurred in fisheries legislation in New Zealand since its inception.

Therefore, proposals for different forms of marine management mechanisms have the potential to polarise arguments for marine management based on the limited scope of their statutory frameworks. The perceptions of marine reserves and the purpose of the Marine Reserves Act behaves as a barrier to implementing this particular form of marine management. That similar outcomes can be achieved through the establishment of marine reserves, Taiapure or Mātaitai suggests that consistencies in the implementation of these approaches should be the focus of marine management, rather than establishing different mechanisms under separate statutory frameworks. The approach to marine management could be improved by facilitating marine management mechanisms in a less fragmented manner.

By focussing on what the needs and values of resource users are, and integrating aspects of the mechanisms described above, marine management could become more efficient, effective and continue to meet the needs of all resource users. The barriers between the perceived 'labels' of the marine management tools include; preconceived ideas, the origins, and statutory frameworks of these mechanisms. To alleviate these requires a review of marine management, aligning the statutory framework and partnership arrangements between agencies responsible for marine management with fisheries management, and removing the barriers that exist towards accepting the merits of these marine management mechanisms.

By developing stronger relationships between the key partnerships in marine and fisheries management, the Department of Conservation, Ministry of Fisheries and Tangata Whenua, a more inclusive approach to marine management may be achieved. These stakeholder groups may also assist in breaking down the misconceptions of towards marine management by providing information and educating resource users and community groups involved in managing the marine environment, how they can achieve their goals.

The willingness to participate combined with identifying and accommodating the needs of the community can lead to co-management and view of the bigger picture. Therefore, the pursuit of co-management is very much an attitudinal and learning process as the barriers between marine management mechanisms are removed, and the needs of all resource users are accommodated within the area.

The process leading up to the establishment of the Pohatu Marine Reserve can be considered a useful learning model for the future of marine management in the South Island. The prominence of Mataitai and Taiapure proposals may provide another step towards understanding marine management in the South Island, by shifting away from learning about marine reserves, and towards Maori conservation mechanisms.

By grasping the opportunity and partnerships made available within marine management arrangements in the Banks Peninsula marine environment, the potential to improve the statutory framework and integration of marine management mechanisms on a larger scale exists. The options and recommendations identified in Chapter Six provide a framework for how marine co-management within the Banks Peninsula marine environment could be

improved. From the framework recommended a template for managing the marine environment of the South Island could develop.

Chapter Six

Options and recommendations

6.1 Introduction

Based on the analysis and conclusions reached from Chapter Five, this chapter identifies options and recommendations for improving co-management within the Banks Peninsula marine environment. These options and recommendations should be considered responses to barriers inhibiting successful co-management of the Banks Peninsula marine environment. These options and recommendations are directed primarily at central government based on government's responsibility to provide leadership and direction for the management of the marine environment.

6.2 Options for facilitating successful marine co- management in the South Island.

1) *Maintain the status quo*

This option suggests that no action be initiated between the Ministry of Fisheries and Department of Conservation towards improving the statutory framework for marine management in the South Island. This option suggests that central government waits until the Ministry of Fisheries can develop a clear definition of what co-management constitutes. This may take considerable time, and the process for co-managing the marine environment may continue to develop very slowly on the ground level, without requiring

the support of central government. This option carries a number of disadvantages including the continuance of fragmented and inconsistent marine management statutory frameworks, characterised by the archaic Marine Reserves Act 1971. In addition, the slow process for establishing marine management mechanisms would continue, adding to frustration by resource users and applicants for marine management mechanisms. These frustrations are based on the expensive processes required for proposing marine management arrangements coupled with the length of time taken for decisions.

One disadvantage of maintaining the status quo is the impending election, and possibility of a new Minister of Conservation. The ramifications of this may be severe, if the new Minister is not passionate towards nor shows the tenacity of the current Minister for settling marine management disputes, and the establishment of marine reserves in New Zealand.

2) *Remove current barriers inhibiting marine co-management arrangements*

In order to remove the barriers inhibiting marine co-management, the inconsistencies between the statutory arrangements for existing marine management in the South Island, based on the Marine Reserves Act 1971, Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, Fisheries Act 1996, and South Island Customary Fisheries Regulations would require amendment. This option could be considered viable if the Marine Reserves Act was amended to become consistent with the other marine and fisheries management statutes identified. The main issue of consideration would be providing financial support for participants in the management of marine reserves. This may provide a greater incentive for participation in the management of marine reserves,

and allow the management arrangement to broaden its capabilities. The Department of Conservation would be required to make provision for this.

Maintaining separate statutory frameworks for marine management would require a redefinition of the activities permitted and prohibited within each marine management mechanism. This would clarify consistencies of purpose between the marine management mechanisms and avoid potential conflicts between them by advocating similar outcomes. Defining possible similarities and differences between the statutes and their marine management mechanisms may also eliminate the preconceived ideas and perceptions associated with each that cause potential conflicts over which mechanism is most appropriate for each given situation.

The partnership arrangements between the Department of Conservation, Ministry of Fisheries and TRONT would be important to establishing consistencies between these statutory frameworks and the acceptance of marine management mechanisms based on understanding their objectives.

3) *Incorporate the principles of the Marine Reserves Act 1971 into the Fisheries Act 1996*

By dissolving the Marine Reserves Act, and integrating the principles of marine reserves into the Fisheries Act 1996, the definition of 'sustainable utilisation' may develop greater depth in terms of achieving the 'conservation' aspect of its definition. By incorporating the statutory requirements of marine reserves into the Fisheries Act, marine reserves may exist alongside Taiapure, and be accorded the same statutory status and provision for cost

recovery. In addition, conflicts between the purposes of Taiapure-Local Fishery and other marine management mechanisms and marine reserves may be alleviated.

Marine reserves could exist under the jurisdiction of the Department of Conservation, who could operate within the partnership between the Ministry of Fisheries and TRONT based on other requirements of the Fisheries Act 1996. By advocating the partnership between these key agencies, marine reserves could be accepted alongside other marine management mechanisms and remove the conflicts and inconsistencies based on the nature of the Marine Reserves Act.

- 4) *Eliminate the separate statutory provisions for Marine Reserves, Mataitai Reserves, and Taiapure-Local Fishery in favour of an integrated statutory framework for co-management*

This option suggests a radical change in the current approach to marine management in New Zealand. It would not be inconsistent with the innovative and cutting-edge approach embraced by New Zealand towards marine and fisheries management. Rather than amend existing fisheries and marine management legislation, this option advocates a more radical shift towards co-management arrangements based on accommodating the needs of resources users, as an alternative to basing marine management on specific statutory mechanisms. This option would remove the provision for Taiapure, Mataitai and Marine Reserves from the Fisheries Act 1996, the TOW (FC) SA 1992 and dissolve the Marine Reserves Act 1971. In their place, a new, integrated statutory framework for co-management arrangements would be developed, incorporating the needs of all resource users-and creating an appropriate management framework based on these. The proposed

South Island Marine Co-Management Act develop a marine management strategy that incorporates and accommodates the specific requirements of different resource user groups within the South Island as a basis for developing co-management arrangements for specific areas.

This option would remove the barriers that currently exist to marine management. By doing so, many of the inconsistencies and barriers to marine management would be alleviated. The process of educating the public and resource users over the most appropriate mechanism for marine management would also be enhanced by basing marine management on the identification and accommodation of the needs of all resource users. Resource users would subsequently select tools from each of the marine management mechanisms identified to meet the objectives of their marine management arrangement.

6.3 Recommendations for marine management in the South Island

Based on the findings of this research, it is the researcher's opinion that to facilitate successful marine co-management, the current approach to marine management in the South Island must be improved. To achieve this, options three and four are recommended for more detailed consideration.

Option Three

Incorporate the principles of the Marine Reserves Act 1971 into the Fisheries Act 1996

- ✦ Remove the existing Marine Reserves Act 1971, and integrate a clear legal definition for marine reserves, their principles and conservation purpose into the Fisheries Act 1996 as an alternative or complementary to Taiapure-Local Fishery

- ✦ Identify within the Fisheries Act that the conservation aspect of the “sustainable utilisation” definition is met by providing for marine reserves.

- ✦ Suggest that in conjunction within Taiapure-Local Fishery areas, that areas may be set aside for marine reserve status

- ✦ Provide financial support for marine reserve management committees

- ✦ The current frameworks for marine reserve management committees are retained

Option Four

Remove the statutory requirements for Marine Reserves, Mataitai Reserves, and Taiapure-Local Fishery in favour of a statutory framework for co-management

- ✦ Dissolve the Marine Reserve Act 1971

- ✦ Remove the provisions for Mataitai, Taiapure-Local Fishery and conservation rahui from existing marine management legislation.

- ✦ Develop a statutory framework that makes the range of tools implicit within Mataitai, Taiapure, Marine Reserves and rahui available to resource users based on the principle of “sustainable utilisation of marine and fisheries resources as identified in the Fisheries Act 1996.

- ✦ Establish a framework for marine co-management based on marine management boards/advisory committees that exist under current legislation to form the basis for marine co-management in the South Island.

- ✦ Incorporate the partnerships between Ministry of Fisheries, Department of Conservation and TRONT as the key agencies involved in educating applicants about marine co-management arrangements.

- ✦ Allow the community to identify their specific needs, and develop a statutory framework for allowing community-based marine management strategies to be established.

- ✦ TRONT, Ministry of Fisheries and Department of Conservation would be responsible to educating, and assisting these management groups to achieve their goals.

The recommendations made here, if implemented may provide for a marine co-management template that could be embraced by the North Island as an example for alleviating similar barriers inhibiting the pursuit of successful co-management. This framework provides the first step towards integrating marine management, by forging the partnerships between the Crown and Tangata Whenua, and linking the resource user with central government, and in the process, shifting closer towards the goal of successful co-management of the marine environment.

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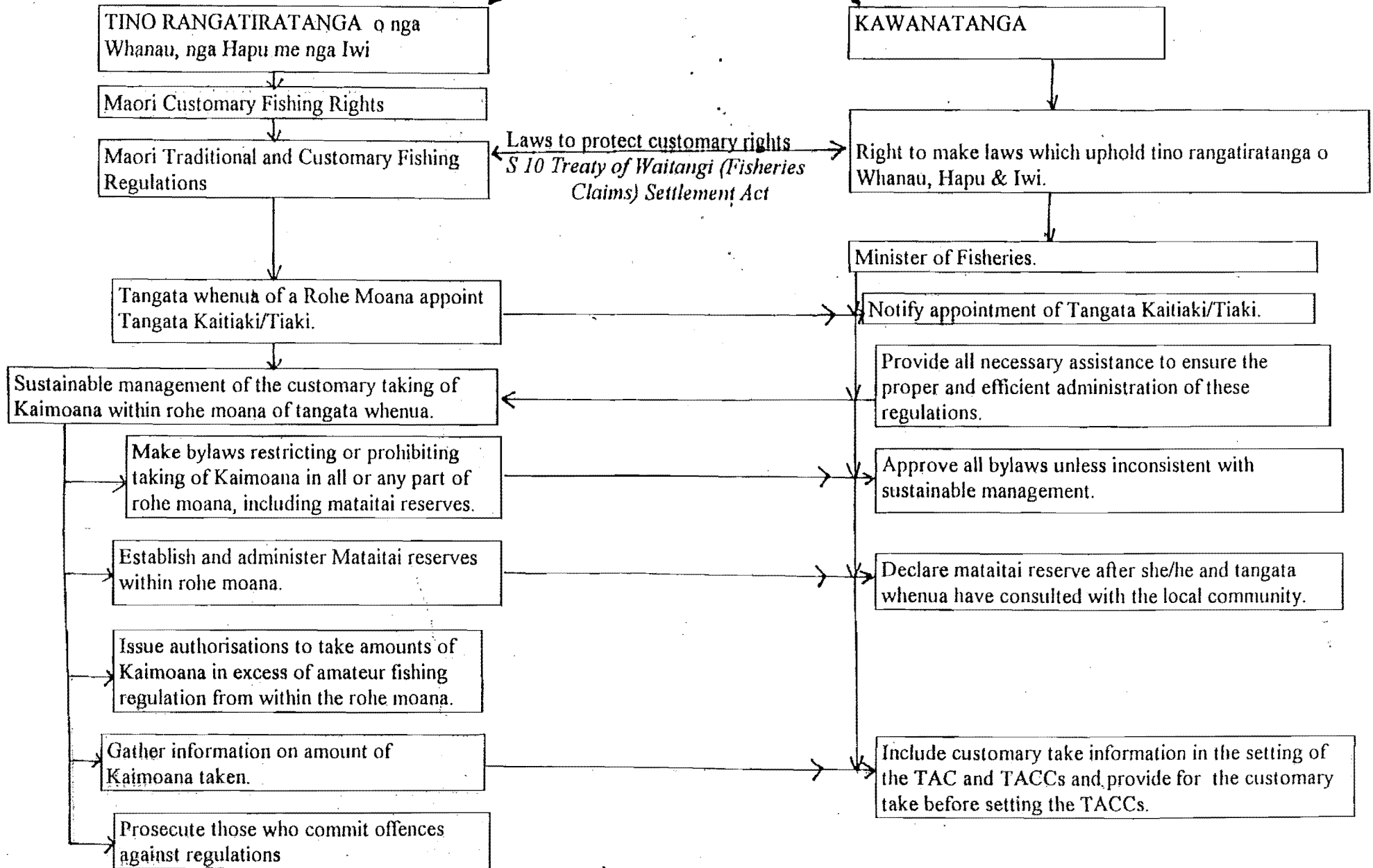
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Appendix One

DIAGRAM 'A'

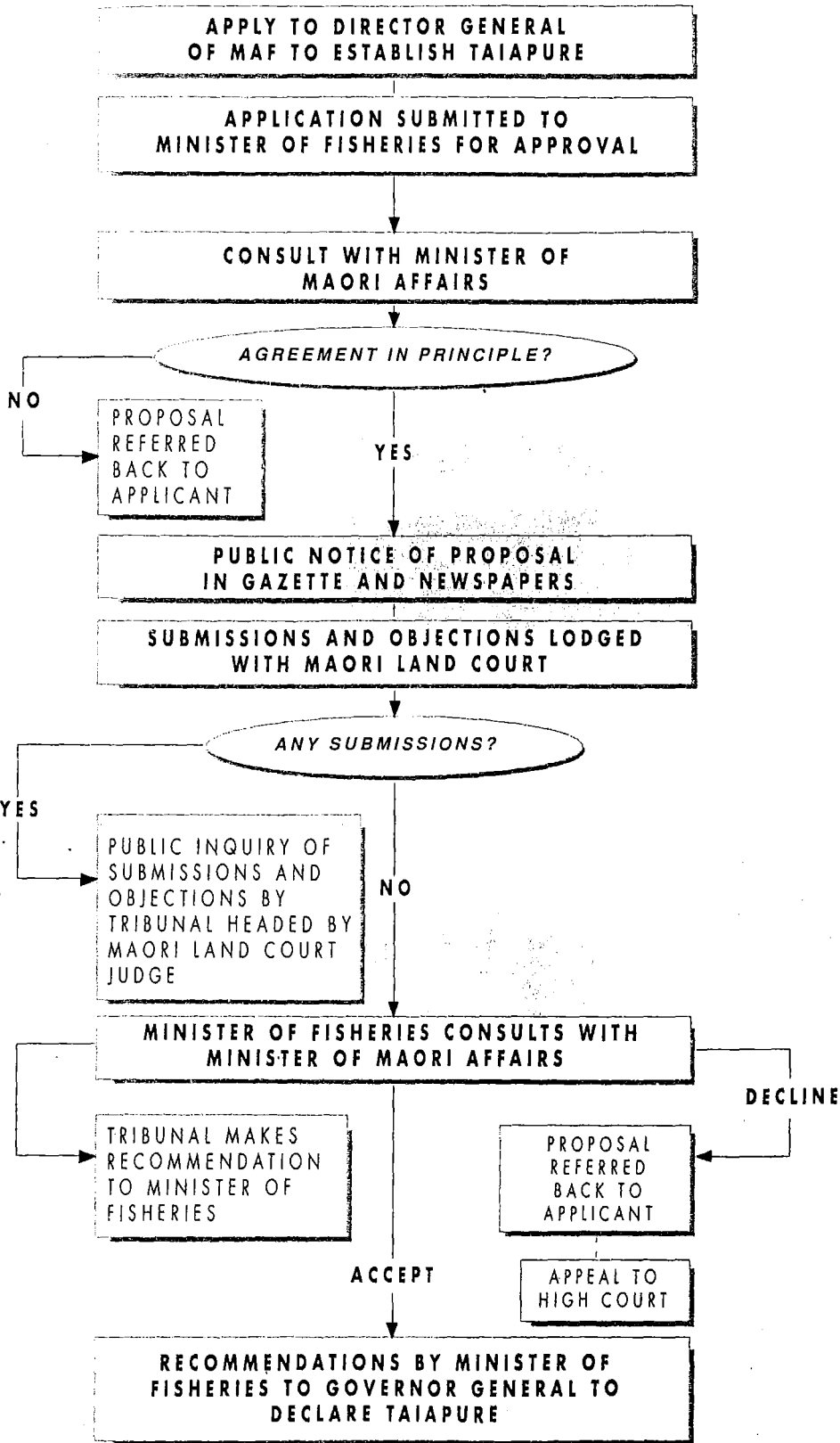
MAORI CUSTOMARY FISHING

TE TIRITI O WAITANGI



Appendix Two

3.7 PROCESS OUTLINING
ESTABLISHING A TAIAPURE

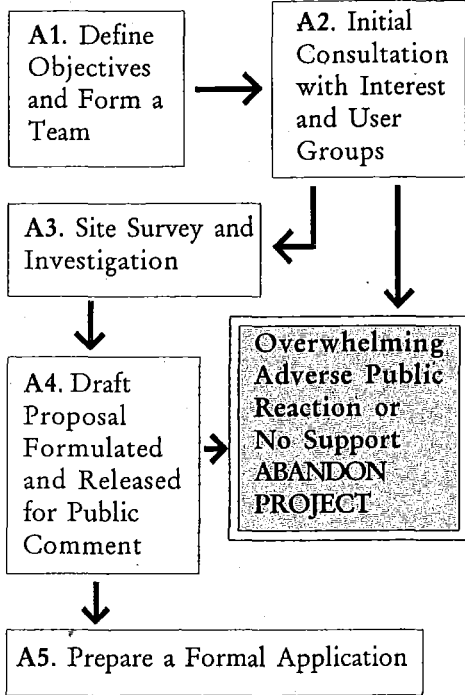


Appendix Three

DEVELOPING A PROPOSAL AND MAKING A FORMAL APPLICATION

The Marine Reserve Process

Part A: Developing a Proposal (Non-statutory)

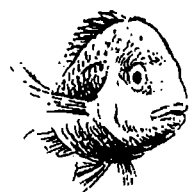
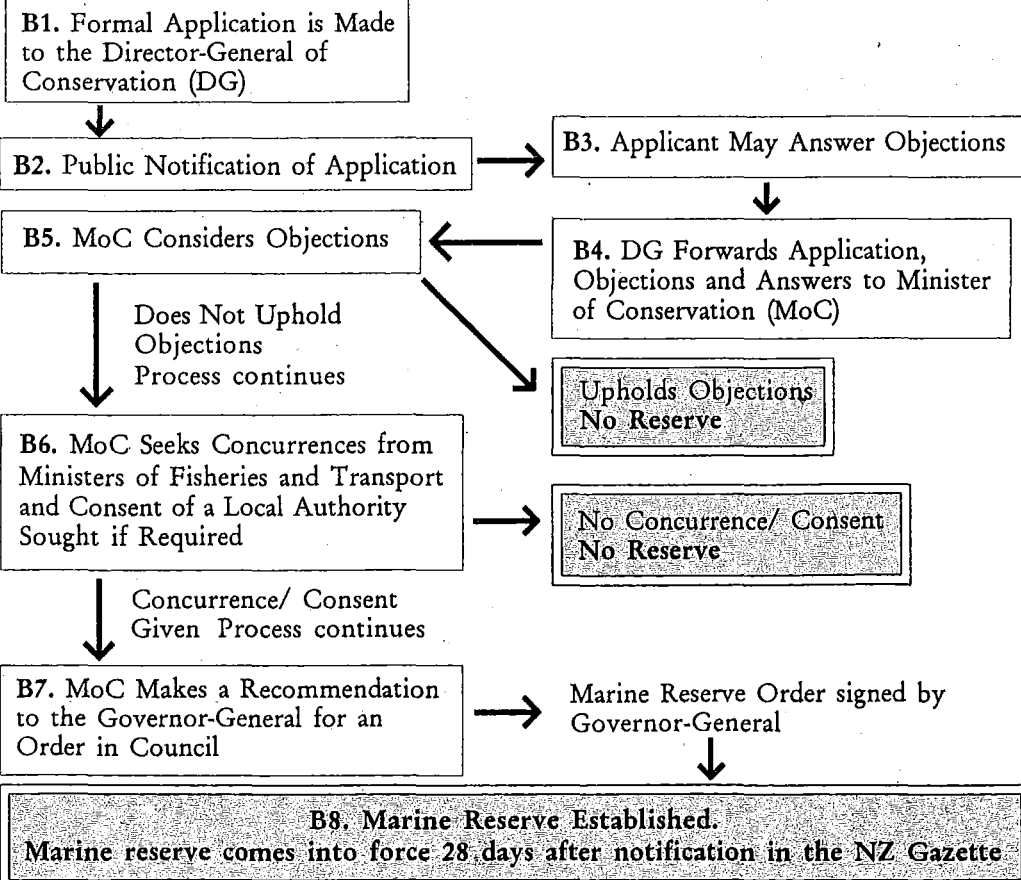


Overview

Within the overall process to establish a marine reserve there are two separate and distinct stages. The first non-statutory stage involves developing a proposal, including the steps taken before an application is formally presented to the Director-General of Conservation (see pages 9-19).

The second stage requires a number of steps to be taken by the applicant which are prescribed by the Marine Reserves Act. This stage is known as the "statutory process" (see pages 20-27). When the applicant has completed the required steps, the Director-General of Conservation and the Minister of Conservation have further statutory functions to complete before a marine reserve can be established (see pages 28-29). The flow chart on this page illustrates the basic steps in the marine reserve application process and is supported by detailed explanations of the main steps in the following pages.

Part B: Making a Formal Application (Statutory)



How to make a marine reserve application

Appendix Four



BANKS PENINSULA MARINE MAMMAL SANCTUARY

MARINE MAMMAL SANCTUARY

New Zealand's first marine mammal sanctuary was created around Banks Peninsula in 1988, to protect Hector's dolphins (*Cephalorhynchus hectori*). The sanctuary extends from Sumner Head to the Rakaia River, and out to a distance of four nautical miles - an area of 1140 sq. km.

HECTOR'S DOLPHINS

Hector's dolphins, upokohue, found only in New Zealand's inshore waters are named after Sir James Hector, a former curator of the New Zealand National Museum. They are easily recognised by their rounded dorsal fin and black, grey and white markings. Although they do not jump as often as some other species, Hector's dolphins are naturally inquisitive and small groups will bow-ride and play in the wake of small boats. With a maximum length of 145 cm (60 - 70cm at birth), Hector's dolphins are the smallest marine dolphin in the world.

Recent studies indicate the population is between 3,000 - 4,000, making them one of the world's rarest marine dolphins. They are regularly seen around the South Island (except Fiordland) and are concentrated around Banks Peninsula. Here the population is at least 500.

The Banks Peninsula population of Hector's dolphins has suffered considerably from entanglement in setnets. In 1984, the population between Motunau and Timaru was estimated at 740. From 1984 - 1988 more than 100 Hector's dolphins were drowned in setnets in this area.

THREATS TO SURVIVAL

Several factors threaten Hector's dolphins conservation. They feed close to shore, preferring shallow, often murky water, to catch a range of species including yellow-eyed mullet and squid. This is also the ideal place to set nets for fish. Like most marine mammals, Hector's dolphins have a remarkably complex sonar or echo location system. However, research indicates that they periodically switch off their sonar when in familiar water. They are therefore unable to identify monofilament nets, the type most favoured by today's net fishers. Once entangled the dolphins are unable to reverse out, and drown.

During summer, Hector's dolphins move close inshore to breed and raise their young. This also coincides with the peak of the setnet season. The months from November to February appear to be the worst times for entanglement.

It seems that Hector's dolphins, like many other small dolphins, barely produce enough offspring to replace the losses caused by natural mortality. Studies have shown that their maximum life expectancy is 20 years. Females become sexually mature at 7 - 9 years, so the most calves a female can produce is only 4 - 7 in a lifetime. Additional losses due to setnet entanglement cannot be replaced by increased reproduction.

SEASONAL RESTRICTIONS ON THE USE OF SETNETS

To conserve the Banks Peninsula population of Hector's dolphins, restrictions on the use of setnets have been introduced.



Find out first

Stay on established tracks and use existing facilities

Take care of your gear

Remove rubbish

Dispose of toilet waste properly

Be careful with chemicals

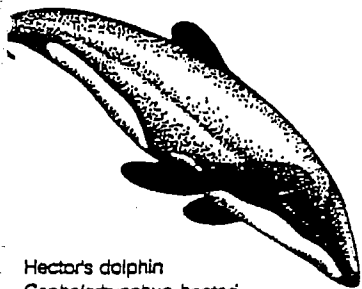
Respect our cultural heritage

Take only the food you need

Consider plants and animals

Consider other people

Toitu te marae a tane
Toitu te marae a tangaroa



Hector's dolphin
Cephalorhynchus hectori

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