



INSTITUTIONAL ARRANGEMENTS FOR COASTAL CONSERVATION

IN NEW ZEALAND

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## Abstract

The focus of this paper is institutional arrangements for initiative coastal conservation in New Zealand. "Initiative" conservation refers to positive measures for the protection of the natural environment for reasons related to its inherent worth. Case studies were undertaken in five areas with different biophysical and societal characteristics, where various approaches to coastal conservation are being attempted. In each area, an issue was analysed to identify conservation policies and their relationship to ecological and human needs, and to administrative and legal frameworks. Analysis demonstrated that initiative conservation policy can encompass user and community needs while maintaining ecological priorities. Institutional arrangements do not appear to restrict the development of such policy in New Zealand, but they do limit its formal expression and implementation. Arrangements for cohesive conservation areas spanning the land-sea interface are particularly lacking.

For a country of its small size, New Zealand (NZ) has a long and environmentally varied coastline. Including harbours and estuaries, the coasts of the main North and South Islands, together with those of smaller offshore islands, stretch for more than 10,000 km (Tortelli, 1981). Human settlement and exploitative land use have historically concentrated along the coast, and, as is often the case, reserves have tended to fall in areas less desired for development, such as mountain ranges. Even so, until recently the coastal zone was not under serious pressure because of NZ's low population density (Tortelli, 1981). Only over the past two decades has concern for the future of less modified portions of the coastal environment become widespread. Concurrently, demands for the preservation of natural coastal areas including land and sea, and for the maintenance of public access to these areas, have been heard more frequently.

Positive action to meet these demands, by restoring or maintaining natural coastal environments, will be called "initiative conservation" here. Within the range of coastal resource uses, initiative conservation contrasts not only with developments that entail high levels of environmental modification, but with conservation measures that aim to mitigate the negative impacts of development. These latter measures are termed "defensive conservation" for present purposes.

Initiative conservation primarily attempts to provide opportunities for activities that depend on settings which

have not been grossly modified by resource extraction. Such activities include recreation, education and scientific study. The type of initiative conservation emphasized here is that which provides for the recreational needs of the public. This type of conservation, implemented in protected areas, stands to serve a much broader purpose than the preservation of ecosystems, or portions of ecosystems. By providing the opportunity for people to enjoy natural coastal environments, initiative conservation areas increase the chance that a larger sector of the public will become convinced of the value of such environments. The rationale for the protection of one coastal area in NZ demonstrates this theory:

... our coastal resources will only gain a full measure of public support when the general public can actually see and experience the benefits that can be derived from [conservation practices] (Dart et al.,1982).

In the long term, the more people that become aware of coastal environmental qualities, the less need there will be for defensive conservation measures in the coastal zone as a whole.

The emphasis of this paper lies on institutional arrangements for initiative coastal conservation. Institutional arrangements, for present purposes, are the legal mechanisms and associated organizational or administrative frameworks which form systems for the expression of policy. The question addressed here is whether the institutional arrangements available for implementing initiative conservation in NZ's coastal

zone are adequate for achieving the purposes outlined above. "Adequacy" is judged in relation to whether arrangements accommodate appropriate initiative conservation policies. Policies are the priorities of an agency which lead it to make decisions in a consistent manner. They encompass agency goals and ideals, which relate to the resource under consideration, and to the values of those who use the resource and those affected by this use. They may also reflect the role or powers granted to the agency by its mandate.

For initiative coastal conservation, policy goals must give first priority to the maintenance or enhancement of the natural attributes of the coastal ecosystem. But to encourage public appreciation of those attributes (and to attain public cooperation in protecting them), the aim of serving community or user aspirations for the resource must also be pursued as far as possible, while keeping within environmental constraints. The policy maker's mandate, which is founded in institutional arrangements, may help or hinder the evolution of such goals or ideals. Organizational and legal structures themselves may or may not enable the expression of policies for initiative conservation.

#### Approach

Policies must be developed to suit biophysical and societal factors which vary from place to place. Accordingly, the adequacy of institutional arrangements can only be

accurately judged in relation to specific conditions. For this reason, the case study approach was adopted to explore the detailed interaction of policy, institutional arrangements and area characteristics at specific locations in NZ. Five coastal areas in which initiative conservation measures have been, or are in the process of being, implemented were chosen for study (Figure 1). Locations were selected that (1) represent a range of institutional arrangements for initiative conservation, (2) include various biophysical coastal environments, (3) hold differing social and political constraints, and (4) have recently been subjected to some stress or conflict culminating in an issue which may or may not have been resolved at the time of writing. The last criterion was included to facilitate issue analysis, which was the technique chosen to demonstrate the interaction of environmental and social factors with policy and institutional arrangements.

Most of the field work was conducted in 1981 and the first part of 1982. The main research technique was the loosely structured interviewing of agency and interest group representatives and individual experts. Unpublished documents and government files were the second largest data source.

Preceding the case study analysis is a background statement on the mechanisms for, and general progress in, coastal conservation in NZ. The case studies are each divided into three parts: (1) a description of the local biophysical environment, land and water use, and social systems, (2) an analysis of an issue, demonstrating

initiative conservation goals and ideals and their relationship to institutional arrangements and area characteristics, and (3) the evaluation of policies and institutional arrangements as exhibited in the issue analysis, according to the principles introduced above.

#### Background to the New Zealand Case Studies

Government and Planning in NZ. Generally, government in NZ is two-tiered: central government answering directly to parliament, and local bodies elected in counties and urban centers. A system of regional government is also being established.

Regional united councils or authorities may, but do not usually, hold planning jurisdiction to the 12 mile territorial seas limit. Maritime planning areas can be established over coastal seas where resource use conflicts have become critical; however, only a few such areas have been declared since provision was made for them in the Town and Country Planning Act (1977). Maritime plans are the marine equivalent to district schemes, which must be prepared by local councils for all land areas, and are reviewed, with public hearings, every five years.

The Town and Country Planning Act (1977) is the basic Planning legislation for NZ. Section 3(1)(c) is of special relevance to coastal conservation because it specifies as a matter of national importance, "The preservation of the natural character of the coastal environment ... and the protection of [it] from unnecessary subdivision and development".

History of Government Involvement in Coastal Conservation.

Central Government in NZ showed an active interest in coastal conservation as early as 1966, when the Department of Lands and Survey initiated the Coastal Reserves Survey to identify coastal lands deserving protection, on a county by county basis. This has almost been completed and it has resulted in the establishment of dozens of reserves in coastal areas throughout the country. There have been no comparably comprehensive efforts to protect areas on the land-sea interface including marine areas. Some of the reasons for this are that (1) threats to coastal areas were seen as land-based, being primarily related to subdivisions along coastline for homes or holiday resorts, (2) recreational and commercial uses of water have been less intense, and their impacts on the marine environments less obvious than those of land uses, (3) in NZ the sea has been viewed by legislators as the classic "commons" and, as such, unsuited to strict regulation.

In the 1970's, changing patterns of resource use, and the extension of territorial seas limits, began to draw government's attention seaward. New legislation was passed, and existing legislation updated; yet expanded institutional potential for protecting the interface has been applied only on a piecemeal basis. As a general indication of the relatively low priority that has been placed on the conservation of marine coastal areas in NZ, nearly five million hectares of land receive a degree of legal protection (Lands and Survey Department, pers. comm., 1982), while only



3000 ha of sea are similarly protected (Tortell 1981).

Institutional Arrangements Available for Coastal

Conservation. Numerous acts of parliament provide for the control of specific activities or particular resources in the coastal zone. A small sample includes the Water and Soil Conservation Act (1967), the Mining Act (1971), the Marine Pollution Act (1974) and the Fisheries Act (1908). The most recently enacted legislation of this type is the Marine Farming Act (1971), which provides for the issuing of licences or leases over areas of sea to be used for mariculture. Most coastal water uses are regulated under the Harbours Act (1950), which applies below mean high water mark (MHWM) to the 200 mile economic zone limit. The act is centrally administered by the Ministry of Transport, and regionally or locally administered by harbour boards. Local bodies are encouraged to acquire grant of control under the Harbours Act (1908) which gives them powers of enforcing by-laws over foreshore and also sea.

The type of legislation discussed so far provides for only defensive conservation measures - its primary purpose is to regulate resource extraction, and conservation provisions are secondary. Acts providing for initiative conservation are fewer on the NZ law books. Lands and Survey Department has almost full responsibility for those applying to terrestrial areas, including the National Parks Act (1981) and the Reserves Act (1977).

The ancestor of the National Parks Act (1981) was the Public Reserves, Domains and National Parks Act, passed in 1928. The 1981 version required the replacement of numerous individual park and reserve boards with regional boards holding responsibility for all parks and reserves in their districts. These boards report to the central National Parks Authority. Only three of NZ's ten national parks border on the coastline. The Reserves Act (1977) replaced the Reserves and Domains Act (1953). It requires that the several hundred reserves in NZ be formally classified according to their intended use. Categories include recreation, historic, scenic, nature, scientific and government purpose. Reserves on private land can also be established, under section 38. Management plans are required for national parks and for reserves. As mentioned above, the Coastal Reserves Survey led to the establishment of numerous coastal reserves. Coastal national park and reserve boundaries end at MHWM, with no provision for seaward extension. *Grant & Coastal as option*

Lands and Survey Department also administers the Land Act (1948) which reserves from sale a 20 m wide strip of land bordering MHWM. This strip, reserved for public access early in NZ's history, is termed the "Queen's Chain", or sometimes, "foreshore reserve". Before its inclusion in the Land Act (1948), large portions of it were alienated from crown ownership.

In three regions of NZ where the coast is dotted with reserves designated under the Reserves Act (1977), maritime

park boards have been established by the Minister of Lands to coordinate management of the non-contiguous reserves. The boards are serviced by the Department of Lands and Survey. Only the Hauraki Gulf Maritime Park Board has its own act of parliament. The future of the other two boards has been threatened by the establishment of regional park and reserve boards under the National Parks Act (1981).

The Wildlife Service can designate refuges in which wildlife is protected, under the Wildlife Act (1953), but no controls over the land or water area involved are provided.

The sole piece of legislation providing for initiative conservation in the marine environment is the Marine Reserves Act (1971), under the responsibility of the Ministry of Agriculture and Fisheries (MAF). This act "has a strong emphasis on reservation for scientific purposes and this is seen as being too restrictive for the majority of likely reserve proposals" (Commission for the Environment, 1982, p.13). Some feel that the Act was specifically designed for the first marine reserve designated under it, which is situated in front of a marine laboratory belonging to the University of Auckland. Only two other marine reserves have been established. Marine reserves are administered by individual management committees established under the legislation. MAF has drafted a bill for heavily modified marine reserve legislation which should soon go before the NZ parliament. The bill proposes a selection of seven marine reserve types, comparable to those of the Reserves Act (1977).

No single piece of legislation provides for initiative conservation areas spanning the land-sea interface. With increasing recognition of the importance of the coastal ecotone, this is seen as a serious gap in the range of institutional arrangements available for coastal conservation. The creation of a combined terrestrial and marine reserve currently requires the implementation of terrestrial protected area legislation adjacent to an area protected under the Marine Reserves Act (1971) (or vice versa), or the establishment of a "marine park" adjacent to a park or reserve on land. The first alternative is restricted by the limitations of the Marine Reserves Act (1971) and by the difficulty that would be entailed in coordinating separate administrative bodies. The marine park alternative entails the application of at least three different pieces of legislation. A land-based agency with conservation responsibilities must first obtain a grant of control from the Ministry of Transport under the Harbours Act (1950) over foreshore and sea fronting a land area which it administers. It can then control recreational use of the marine area according to a set of by-laws. Other uses, such as fishing, mining and marine farming would have to be restricted by the departments that administer the legislation relevant to these activities. MAF, in particular, is expected to curtail commercial fishing in "marine parks" under the Fisheries Act (1908).

Overall, there is a clear imbalance between the number

of options available for achieving initiative conservation over terrestrial coastal areas and those available for protecting coastal waters. Institutional alternatives for conservation areas spanning the land-sea interface are even fewer. Nevertheless, recent efforts in scattered locations on the coast, combined with longer standing coastal protection arrangements, provide a broad base of coastal conservation experience in NZ. A sample of this experience will be explored in the following case studies.

#### Marlborough Sounds Maritime Park

Description. The peninsulas of the Marlborough Sounds (the Sounds) rise steeply from the shore to summits between 450 and 600 m. Their convoluted coastline follows two major Sounds and numerous smaller branching ones for 1448 km. This distance is about fifteen percent of NZ's coast. The 1480 square km of land and 1570 square km of water together present a pleasant mosaic of farmland, remnant native forests, successional vegetation, islands and sheltered inlets.

European settlement since 1830 has had dramatic impacts on the land-seascape of the Sounds. Damage incurred on native flora by introduced species such as goats, pigs and opossums has combined with human impacts such as burning, planting and grazing to produce a heavily modified vegetative cover. While introduced animals dominate the mainland fauna, some islands are relatively undisturbed

and are notable for certain indigenous species. Approximately 500 persons live in the Sounds proper, in small service settlements and on farms. The region has been used for fishing, farming, forestry, and marine farming. Due to decline in the resource-based economy, residents have been leaving land-holdings in the Sounds. Those remaining take pride in their way of life and in the Sounds environment.

The Sounds have long been a recreational area of national importance in NZ. Tourism and the influx of summer residents contribute to the regional economy and way of life. Considerable exposure is gained via the traffic of a ferry route passing through the Sounds which is the connection for surface travel between NZ's two main islands. Natural areas along the coastline in the Marlborough Sounds Maritime Park help maintain the region's appeal for predominantly water-based recreational activities.

Institutional Arrangements. Approximately thirty percent of the land area of the Sounds is protected as reserves, almost all of which border on the sea (McCaskill and Christie, 1981). The Reserves Act (1977) covers most of the 119 reserves scattered throughout the Sounds, which are mainly classified Scenic, for their aesthetic, biological and recreational values. The proliferation of coastal reserves is largely due to the completion of the Coastal Reserves Survey for the area at a time when Lands and Survey Department still had funds available for the public acquisition of reserve land. These reserves

generally do not extend below MHWM.

Overlapping most reserves is the Sounds, Foreshore Reserve which runs for 654 km along the coast at a width of 20 m from MHWM inland. This land was set aside primarily to preserve public access as part of the "Queen's Chain". Special legislation was passed in 1955 under the Reserves and Other Lands Disposal Act to rationalize its management.

The Foreshore Reserve and the 119 other reserves form the Marlborough Sounds Maritime Park as defined by the limits of the associated Park Board's jurisdiction (Figure 2). These limits and the rules for the Marlborough Sounds Maritime Park Board (MSMPB) were set by Gazette notice on the recommendation of the Minister of Lands and Survey in 1972. Lands and Survey Department assists with reserve plans, but a management Plan for the Park as a whole is not required and has not yet been drafted.

Issue Analysis. The sheltered waters that enhance the recreational value of the Sounds also render them ideal for growing mussels. Expansion of the marine farming industry over the last fifteen years was rapid enough to warrant the establishment of a statutory maritime planning area over the Sounds. The Park Board was assigned a seat on the Maritime Planning Committee because of its vital interest in the planning of Sounds waters. The Board's mandate for helping to regulate mussel farming stems from this maritime planning representation, and from the rights

accorded to interests controlling land fronting marine farm applications, under the Marine Farming Act (1971). As administrator of public reserve lands on the shore, the Board can object to the siting of marine farms in front of reserves. As a participant in maritime planning, it has a say in more general priorities for regulating marine farming.

Land-based developments such as subdivision, agriculture and forestry conflict with mussel farming to the extent that they pollute the waters with bacteria, nutrients and sediment runoff (Johnston et al, 1981). Conversely, protected coastal land areas provide a buffer between such development and the water, so that mussel farmers tend to prefer locations fronting reserves. Some recreational reserve users, however, dislike the visual interruption of the seascape by the 3 ha grids of black buoys supporting the mussel lines. In addition, while shore access must be maintained and farms well marked, navigation of boats is interrupted.

The Park Board has participated in planning for marine farming with the overall objective of preventing the proliferation of marine farms in the Sounds. In 1981-82 it lodged objections with MAF to eleven marine farm applications, based on conservation and recreation grounds (MSMPB, 1981). Conservation in this context refers to the preservation of the "recreational and aesthetic values of the areas of the Sounds which the Board administers" (MSMPB, 1980) rather than to the maintenance of ecosystems.



The biophysical environment of the reserves is affected by marine farming only to the extent that debris is left on the shore by farm workers.

Thus, the goals of the Park Board that are emphasized in its response to the marine farming issue are mainly those related to the accommodation of recreational activities fronting reserves, and of water access to reserves for land based recreation (Henderson, pers. comm, 1980; Wilkes, pers. comm, 1981). These goals reflect the Board's mandate for Scenic Reserves in terms of the Reserves Act (1977), which emphasizes the provision of natural areas for the recreational and educational use of the public. On the basis of "protecting the public interest", the Board has called for more stringent conditions and regulations on marine farming (Marlborough Express, 1976; Marlborough Sounds Maritime Planning Committee, 1981), and has insisted upon use of a licensing rather than leasing system to maximize public access to marine farm sites.

A submission to MAF on marine farming made by the Park Board and other local government bodies in 1978 demonstrates a broad interpretation of "the public interest":

The planning problem is the accommodation of the different land and water uses ensuring that natural, cultural, landscape and recreational values are enhanced, and the welfare of the population provided for in proper recognition of natural, regional and local needs (MSMPB et al, 1978).

Although Scenic Reserves are not normally expected to fill national needs, the reserves of the Maritime Park together do contribute to a vacation destination of national importance, and Park Board policies take this into account. National and

regional needs are generally met via the recreational priorities mentioned above. The welfare of the local population requires consideration of economic factors as well as aesthetic and recreational ones.

Economic goals are not included in the Park Board's legal mandate, yet the Board has always supported marine farming in principle, for its contribution to the local economy (MSMPB, 1972). It does not object to applications for marine farms fronting foreshore reserve if the areas are not popular for recreation (MSMPB, 1973), and it usually supports applications from local landowners or fishermen looking for an alternative source of income (Mitchell, pers. comm., 1981).

Park Board support for local interest in marine farming stems, in part, from its pursuit of goals related to recreation. Because Park Board holdings are generally small and discontinuous, cooperation of residents who control large areas of land surrounding reserves is vital to the achievement of the regional Maritime Park image. Part of the attraction of the Park is the rural quality of the landscape: farms and vacation or retirement homes are aesthetically pleasing and they add a degree of safety or security to recreational activities that would otherwise be isolated from ready contact with civilization. Small settlements serving the local residents also provide a convenient source of supplies for visitors. However, apart from these practical interests, the Park Board appears to have held a genuine commitment to the Sounds population since its inception. This commitment can

largely be explained by the representation of local residents on the Board itself.

Evaluation. The Park Board derives its legal backing for participation in the planning and regulation of marine farming from a variety of institutional arrangements. Its role as member of the Maritime Planning Committee, and as fronting land owner under the Marine Farming Act (1971) give it the opportunity to influence resource development outside its immediate area of control, helping to ensure that impacts of development do not infringe on the achievement of its goals. The goals thus demonstrated are not defined in the mandates accorded to the Board for participation in marine farming issues. These mandates, in themselves, only provide the Board with defensive backing for its primary concerns.

The positive aspects of the Board's role in the Sounds are initiated by the mandate set forth in the legislation establishing the reserves that it administers - namely the Reserves Act (1977) and the Reserves and Other Lands Disposal Act (1955). However, the mandates assigned by these Acts relate to conservation, recreation and access for reserves in general, and do not provide direct policy guidance for the Maritime Park. Formal Park planning has not defined policies either. Policy goals have instead evolved from the Park Board's experience in the Sounds, based in coping with and responding to such issues as marine farming. This experience and local representation on the

Park Board have produced a set of goals that are appropriate to the conservation of Park resources, to the maintenance of recreational opportunities for Park users, and to the support of the life style of local residents.

The ideals of the Park Board, while consistent with its principal mandates, have come to reflect a consideration for values outside these mandates, successfully incorporating the values of the community most directly influenced by resource administration in the Sounds. A loosely knit set of institutional arrangements have permitted these ideals to emerge.

#### Poor Knights Islands Marine Reserve

Description. The Poor Knights Islands (the Knights) comprise two islands of 129 ha and 66 ha with numerous surrounding islets, stacks and rocks lying on the edge of NZ's continental shelf. Convoluted shores drop as cliffs from wooded plateau tops at 240 m to depths of 50 to 100 m below sea level. A wide range of marine habitats is enhanced by the presence of a warm ocean current, permitting the establishment of tropical and sub-tropical faunas. The islands themselves have regained their natural vegetation cover since the last Maori inhabitants left them in the early 19th century, declaring them tapu, or prohibited to human contact. Terrestrial species rare or absent on the NZ mainland have found refuge on the islands, and rare marine species frequent the waters. One species of petrel is known to nest only on the Knights (MAF, 1979, p.7).

While there is little room for a transition area between land and sea in the form of a littoral zone around the Islands, interaction of terrestrial and marine environments does occur. The trevally, a pelagic fish which forms large resident schools feeding within 3 km of the Islands, is an important link in the system of interaction. When large schools of trevally are feeding, they force krill to the surface, which are fed upon by thousands of sea birds. The birds deposit guano on the Islands, which becomes an important nutrient source for the terrestrial ecosystem (MAF, 1979, p.9-10).

The seas surrounding the Knights have long been used for recreational fishing, big game fishing and commercial fishing. Sport divers come from throughout NZ and around the world to view the spectacular underwater scenery. NZ dive clubs voluntarily banned the taking of most forms of marine life by divers from 1971 (Fowler, pers. comm., 1981).

Residents of the closest mainland centres in Northland (the long peninsula at the north of the North Island) are the dominant users of the area, and their economy is partially dependent on tourists attracted by the above activities. Northlanders are notoriously resentful of central government as they feel their interests tend to be neglected in favour of larger population centres such as Auckland.

Institutional Arrangements. The value of the Islands as a refuge for rare and endangered species has long been recognized by conservation agencies, and since 1882, when the Islands became crown land, they have been allocated various protective designations, as follows:

1883 - reserve for lighthouse purposes  
 1922 - reserve for scenic purposes  
 1929 - sanctuary for nature and imported game  
 1975 - reserve for the protection of flora and fauna  
 1977 - Nature Reserve under Reserves Act (1977) (MAF, 1979, p.2)

In 1975 the Poor Knights joined the Hauraki Gulf Maritime Park, which consists of a collection of coastal reserves, like the Marlborough Sounds Maritime Park. Since 1956, access to the Islands has been by permit only, for scientific study (Department of Lands and Survey, n.d.). Protective arrangements have included the foreshore since 1975.

The waters around the Poor Knights have only recently been protected as a marine reserve. The struggle to create this reserve is the issue which will be analyzed here, with emphasis on the problem of protecting the trevally.

Issue Analysis. In 1972 the Hauraki Gulf Maritime Park Board first proposed to MAF that the seas around the Islands be protected as a marine reserve. At this time there were threats of oil exploration within 800 m of the Islands. Although prospecting proposals were later withdrawn, the Park Board continued to pursue its proposal, to achieve protection of the marine environment from commercial fishing pressure, and from some forms of recreational fishing. The main problem confronting the Board was that the Marine

Reserves Act (1971) was not appropriate to serve these ends, because it allows little range in reserve purposes and emphasizes scientific aspects. Stringent controls on the taking of all forms of marine life were not seen to be necessary at the Poor Knights (MAF, 1979, p.5).

When the proposal to declare a marine reserve became public, Northland politicians, and fishing, diving and tourist associations who feared severe restrictions on their activities, vigorously objected. Their fears were largely based on the provisions of the Marine Reserves Act (1971). Options for the protection of the Islands included: (1) forcing designation under existing legislation despite vocal protests from the local community; (2) passage of separate legislation to fit the needs of the Islands; (3) rewriting the Marine Reserves Act (1971); and (4) amending the present legislation to accommodate the special circumstances of the islands. While these alternatives were being considered, local interests continued to press, at public meetings and through submissions, for uninterrupted access to the area. Concurrently, commercial fishing pressure increased, with purse seiners seriously threatening the surface-feeding trevally. Local MAF representatives and the Park Board sent pleas to central government for a ban on the taking of school fish by bulk fishing methods around the Islands, but no action was taken (Ritchie, 1977).

In 1977 the fourth of the above options was acted upon - Parliament amended the Marine Reserves Act (1971) to allow

limited recreational fishing in marine reserves, with limitations to be set by the management committee for the reserve. However, by this time controversy over the proposed Reserve had risen to such a degree that MAF decided to produce an environmental impact report for audit by the NZ Commission for the Environment. This was the first reservation, as opposed to development, proposal that the Commission had agreed to audit.

After considering submissions from all interested groups and individuals, the environmental impact report concluded that within 800 m of the Islands (a 2410 ha area), only diving, boating and certain types of recreational fishing should be permitted, with all fishing prohibited in two zones (MAF 1979) (Figure 3). It also called for limiting commercial fishing out to three nautical miles around the Islands. The audit agreed with these recommendations, while encouraging thorough consideration of recreation interests and stressing the need for local representation on the Management Committee. The audit differed from the report by playing down the importance of the trevally to the terrestrial ecosystem. It supported protection of the trevally nevertheless, "because of their visual appeal and in general because they appear to be under excessive fishing pressure" (Commission for the Environment, 1979, p.24).

Early in 1981 the Poor Knights Islands Marine Reserve was finally legislated, according to the above proposals. However, while reef fish and cliff-dwelling marine biota



are protected in the Reserve, pelagic school fish, including the trevally, have not been protected beyond the limits of the Reserve. Extended protection depends on the Minister of Agriculture and Fisheries prohibiting bulk fishing around the Islands under the Fisheries Act (1908).

Evaluation. The goals held by the proponents of conservation for the Poor Knights marine environment were consistent throughout the struggle for protection. The Park Board and MAF representatives wished to ensure the maintenance of the area's outstanding marine biota, and also to enhance recreational opportunities. They felt that the Poor Knights marine environment was worthy of recognition in initiative conservation arrangements. They also believed that fish populations further offshore warranted some defense against fishing pressure, partly to enhance the values of the more thoroughly protected island environment. However, no-one wished to see traditional uses of the area, and economic benefits to Northland, interrupted any more than necessary. Concern for local interests was so great that an impact assessment was conducted to ensure their fair treatment. The assessment and audit process, and the revision of existing marine reserve legislation, finally produced a set of institutional arrangements fitting conservation and recreation ideals for the area while minimizing infringement on local customs. Protection of fisheries surrounding

the Marine Reserve has not been achieved, but the need for such protection to enhance the value of the established Reserve is not firmly established.

#### Mimiwhangata Peninsula Marine Park

Description. Mimiwhangata Peninsula lies on the coast of Northland facing the Poor Knights. The area of the Peninsula and its offshore islands is 800 ha. Its 18 km coast is characterized by protected sandy beaches, a few dunes and swamps, rocky headlands, intertidal platforms and reefs. Patches of native bush or scrub grow along the shore which is mainly backed by pastoral lands. A variety of coastal birds including penguins frequent the area. The varied topography of the Peninsula extends below water, so that diverse habitats produce a mosaic pattern of marine biota.

A company, Lion Breweries Limited, owns and farms the Peninsula (Figure 4). The seas around it are a traditional location for Northlanders' recreational activities and some commercial fishing. Lion Breweries has granted to the public road access to the Peninsula. The company plans to encourage recreational, educational and research usage, and has established a Charitable Trust to administer the area as a "farm park" under a twenty-one year lease, presumably to promote public relations (Mimiwhangata Trust Board, 1977, p.5).

Institutional Arrangements. Lion Breweries had employed consultants to investigate the potential of the Peninsula for a vacation development in the 1960s. Although this project was abandoned, data collected on the area's biophysical environment was published in reports (eg. Darby et al, 1973), and a monitoring program of marine biota was continued (Grace and Grace, 1978). When the Mimiwhangata Trust proposed to encourage public use of the farm park, the consultants warned that increased coastal use could result in serious degradation of the marine environment. The Trust began searching for ways of protecting the seas around the Peninsula from negative impacts.

The most suitable conservation arrangement appeared to be the "marine park", as described earlier. Because the Trust, stemming from a commercial interest, could not be given a grant of control, it proposed to enter into a shared administrative arrangement involving an eligible public body. The Hauraki Gulf Maritime Park Board agreed, after being convinced of the Trust's conservation objectives, to join a joint management committee which could be terminated on six months' notice by either party to the agreement. The committee had a strip of coastal land 40 m wide designated as "protected private land" under the Reserves Act (1977). The Park Board would manage the strip as a recreation reserve.

In 1980 the Park Board, on behalf of the Joint Management Committee, applied for grant of control of the

foreshore and coastal waters out to 1000 m off the shores and islands of the Peninsula. The aim was to:

bring the ecologically important land-sea interface ... under immediate management control and to ultimately ensure a suitable level of protection of marine life in the waters off the Mimiwhangata Coastal Zone (Millar, 1980).

Issue Analysis. When the Park Board applied for grant of control the Whangarei County Council lodged an objection which reflected mounting Northland opposition to plans for Mimiwhangata. The outrage felt by some county councillors was published by the local newspaper (Northern Advocate, 1981) and supported by local government bodies, recreation interests, Maori representatives, citizens' associations, fishermen, and local members of parliament. Objections related principally to the following fears, in descending order of importance:

- (1) The Hauraki Gulf Maritime Park Board was mainly comprised of non-Northland representatives.
- (2) Access to the waters around the peninsula and the peninsula itself would be restricted, curtailing traditional anchoring, fishing and recreational activities.
- (3) Lion Breweries might develop the land area as a private or commercial resort and use control over the waters to enhance these purposes.
- (4) The ecological qualities of the marine environment did not warrant protection, and the "expert" advice was misleading.

Proposals for alleviating opposition to the arrangement

included:

- (1) appointing more local members to the Hauraki Gulf Maritime Park Board;
- (2) extending the jurisdiction of the Bay of Islands Maritime Park Board, which is perceived as representing local interests, southward to include Mimiwhangata;
- (3) using marine reserve legislation instead of the "marine park" concept;
- (4) "sell" the current marine park proposal to the public.

The first proposal did not go far enough in the view of local politicians, since the board would still be dominated by Auckland members (Northern Advocate, 1981). The second alternative, initiated by the people of Northland, was not seen to be viable by the Department of Lands and Survey because the future of the Bay of Islands Maritime Park Board is uncertain, whereas that of the Hauraki Gulf Board is assured by act of parliament (Dart et al, 1982). The third proposal received little consideration, probably because it would not provide coherent enough management across the interface, or due to the scientific priorities of the Marine Reserves Act (1971). The fourth alternative was the one chosen by the proponents.

In order to "sell" the proposal, the management committee opened the farm park to the public, undertook a visitor survey, and in March 1981 held a "meet the public" field day at Mimiwhangata. By this time, however, local bodies and members of parliament were so vehemently opposed to the continuing involvement of the Hauraki Gulf

Board that they declined to attend the "field day".

Following the Poor Knights example, the Joint Management Committee decided to prepare an environmental impact report which the Commission for the Environment agreed to audit. The report concluded that a marine park arrangement using the Harbours Act (1950) and the Fisheries Act (1908) is the best available alternative for enhancing recreational opportunities at Mimiwhangata (Dart et al, 1982). It stated that continuing enjoyment of the coastal resource would not be possible without some degree of protection but that controls on resource use should be flexible and tied to both resource and user needs. The report supported the Northland-based Bay of Islands Maritime and Historic Park Board as the most appropriate administering body, since it has a strong base of local support, but this was providing that the appropriate Minister first assures the Board's continued existence. The impact audit, completed in December 1982, agreed with these basic recommendations (Commission for the Environment, 1982). They had not been implemented at time of writing.

Evaluation. Goals for the protection of the Mimiwhangata marine environment have been carefully tailored to both resource and community needs. They are also consistent with the proponents' wider initiative conservation ideal of making available to New Zealanders "the opportunity of experiencing the rich coastal marine resource that forms an important part of our national heritage" (Dart et al,

1982, p.131). The initiator of conservation arrangements at Mimiwhangata, being a private interest, had no mandate to achieve these purposes so it elicited the cooperation of an agency possessing such a mandate. Either of two maritime park boards administering coastal reserves in Northland held appropriate responsibilities; however, one had the institutional backing to ensure its continued existence, while the other had local support.

The marine park approach, while "making do" with a rather complex combination of legal arrangements, seems capable of accommodating the goals described above. Problems could, however, be encountered in attaining flexibility in regulation under the Fisheries Act (1908).

Overall, the main impediment to implementation of conservation arrangements at Mimiwhangata was the political issue of selecting an administrative body that held the confidence and respect of the local populace. This issue may not have arisen if the Northland-based Park Board had had a firm legislative foundation, or if the public had been involved in planning from the outset. Controversy over the involvement of a commercial interest, which does lend some uncertainty to the long term viability of the conservation scheme, was, on the whole, secondary to the administrative debate.

#### Ahuriri Estuarine Park

Description. An earthquake in 1931 reduced the Ahuriri Estuary from 3840 ha to 1200 ha, and drainage for

farms farther reduced the area to 450 ha (Figure 5). Bridges crossing the estuary on transport routes to the neighbouring city of Napier divide it into three sections. The "inner harbour", nearest the sea, has been greatly altered from its natural state to provide berthage for boats and small fishing vessels. It is surrounded by Napier City development and is intensively used for water recreation. The broader middle portion of the estuary consists of mudflats, islands and channels in a much less developed area at the edge of the city. This section is popular for passive forms of recreation such as bird-watching and walking. Above it, the narrower, stop-banked outfall channel extends around the periphery of the pre-1931 estuarine area, still exhibiting tidal characteristics while draining the surrounding hinterland.

Dozens of species of birds are attracted to the estuary's less modified middle and upper sections. The presence of rare and endangered migratory birds, as well as the abundance of water birds, give the Ahuriri habitat national ornithological significance. Regionally, the estuary is an important nursery for several species of fish, some of which have commercial value (Voice, 1978).

Institutional Arrangements. Half of the lower reaches of the channel lie within city boundaries and the remainder of the estuary is included in the Hawke's Bay County planning area. Drained farm land is owned on one side of the channel by the Hawkes Bay Harbour Board, and on the other side



by Lands and Survey Department. The Harbour Board owns most of the estuary bed.

The only long-standing legal protection for the rich estuarine ecosystem is the 1958 proclamation of the lower reaches of the main outfall, including a bordering marsh and lagoon, and the middle section, as a Wildlife Refuge under the Wildlife Act (1953). Refuge status protects the wildlife in the area, but does not protect habitat. Part of the Refuge, around the lagoon north of the lower main outfall, is also protected as a Reserve not yet classified under the Reserves Act (1977). The achievement of further protection for the Estuary has been an issue of debate in the Napier region for over a decade. Some aspects of it will be summarized below.

Issue Analysis. Controversy concerning uses for the Estuary began in 1968, following proposals for marine development. Local conservation groups gained the support of the national Nature Conservation Council in their campaign for a national estuarine park (Ahuriri Estuary Technical Committee, 1979, p.1) - an arrangement for which there are no legal provisions or precedents. During successive years the marina proposal was "shelved" but no action was taken on the park proposal. Conservation groups grew more concerned over dredging activity by the Harbour Board and over proposed motorway development. They obtained scientific advice on the ecological qualities of the Estuary and held a public meeting to encourage public

support for the conservation cause. Two public interest groups, "Friends of the Ahuriri" (Hawke's Bay Herald-Tribune, 1981) and then "Ahuriri Protection Society" were formed (MacDonald, pers. comm., 1981).

Until 1976, response from the various local and central government agencies with responsibilities in the area was negligible, apart from Napier City Council and Harbour Board involvement in dredging deliberations. Then the City Council convened a meeting of representatives from these agencies which resulted in the formation of a Steering Committee and a Technical Committee. The former was to devise a management plan for the Estuary and the latter was to co-ordinate research to provide data for planning. The Technical Committee produced a report in 1979 summarizing various research projects and recommending use of the area only to an extent compatible with its natural character (Ahuriri Estuary Technical Committee, 1979). "Social goals" for the coast as expressed in section 3(1)(c) of the Town and Country Planning Act (1977) were cited as justification for this recommendation (Voice, 1978, p.149). The Steering Committee was eventually disbanded, without producing a management plan.

Following the publication of the report, another public interest group was formed which supported dredging and development of the middle estuary for power boating, sailing and picnicking (Daily Telegraph, 1981). Conservation interests still favored wildlife preservation with passive recreation. Government agencies remained unresponsive

until 1981.

In its 1981 District Scheme Review, Napier City Council acted by creating an "estuarine subdistrict" on the principles put forward in the Technical Committee's report. In the middle section of the Estuary, labelled "Estuarine Park", rowing, sailing and passive activities are to be encouraged, while maintaining the estuarine ecosystem and the Wildlife Refuge. A management plan is to be devised for the Park. The main outfall channel is also to be maintained as "an integral part of the estuary" (Napier City Council, 1981). As Council hearings on the Scheme began, public interest groups representing conservationists and power boat users, and the Harbour Board, were objecting to Estuarine Park policies for divergent reasons. Conservationists, including passive recreationists, were perhaps the most satisfied by City Council goals, and their values best agree with environmental needs.

Evaluation. Initiative conservation goals for the Ahuriri Estuary grew out of public interest more than from the execution of government conservation responsibilities. Rather than agencies having to seek community response to proposals, the public, as instigator, looked for government response. The fact that initial proposals had no institutional foundation is, therefore, not surprising.

Action finally taken by the City Council probably reflects the optimal initiative conservation policy

for the Estuary, given conflicting social values and a rich but vulnerable ecology. It is founded in a sound data base resulting from an ad hoc impact report from the Technical Committee, and from strong and vocal local interests. However, implementation of initiative conservation measures through zoning is practically as unheard of in NZ as is the "National Estuarine Park". Whether Council's powers will be strong enough to uphold the priorities it has set for the Estuary remains to be seen. For lack of active interest from central government, and for lack of more appropriate institutional arrangements, the City Council is stretching its mandate beyond the role traditionally extended to local bodies in NZ. Also, the several other agencies with responsibilities for parts of the estuary will have to support the plan if it is to be a success.

#### Abel Tasman National Park

Description. Abel Tasman National Park covers 22139 ha of land with a 58 km coastline (Figure 6). The eroded granite coast is characterized by golden beaches and rocky headlands interspersed with estuaries. The vegetation of the Park is in various stages of regeneration following clearing by settlers last century. Introduced browsing animals have also extensively modified the indigenous flora and fauna. Nevertheless, stands of native trees growing down hillsides and ravines to the shore, seals and dolphins frequenting the waters, and a variety of sea birds including

blue penguins add to the physical attraction of the Park's coast.

A coastal track with closely-spaced huts is the most popular route for land-based users of the Park. Most recreationists approach the Park by sea, with bays and sheltered roadsteads providing popular locations for water-based recreation. There are no major population centres in the immediate vicinity of the Park, but it is a vacation destination for people from all over NZ.

Several holiday homes, or "baches", are located along the shore of the Park. Some of these are on Park land and will be removed when leases expire. Others are located in clusters on private inholdings within Park boundaries. Strips of unformed legal road adjacent to the foreshore are under the control of the Golden Bay County Council, whose planning area overlaps with part of the Park. The Waimaea County Council boundaries also include Park land.

#### Institutional Arrangements. Abel Tasman National

Park was established under the Public Reserves, Domains and National Parks Act (1928) in 1942. It was administered by its own Board until 1981, when the new Nelson District National Park and Reserve Board took over. Seaward boundaries lie 2.5 km off the shore of the Park to include islands within that zone. The foreshore and bordering seas are not under Park Board jurisdiction although proposals to reverse this situation were first made over ten years ago, and the former Board's intention to achieve extended

control was expressed as a policy statement in the 1977 management plan (Abel Tasman National Park Board, 1977). The extension of Park control is the issue examined below.

Issue Analysis. The reasons put forward over the years for extending Park Board control are numerous. On beaches and rocky shores and in estuaries the Board would like to be capable of curtailing the activities of a few Park users who abuse recreational and environmental values extending below mean high water mark. Uncontrolled use of the foreshore can lead to littering, the starting of fires which could spread to the Park, the use of trail bikes, and the introduction of dogs which are not permitted in a national park (National Parks Authority, 1970). Offshore, the Board desires more involvement in the consideration of marine farming and mining applications, and in fishery regulation, because of its concern for marine environmental values as well as the needs of recreational boaters and fishermen. The Board would also like to have the power to regulate the dumping of effluent into coastal waters by visiting boats (Dooogue, pers. comm., 1981). On the whole, extension of control is seen as a means of fulfilling Park users' expectations of a national park with a strong maritime character (Thorpe, pers. comm., 1981). The Board has no intention of restricting "recognized recreational activities" (Tisdall, 1974).

A number of alternative institutional arrangements were available to the Park Board to achieve various forms of control over foreshore and sea. First, the Board ensured that its rangers have the authority to enforce Ministry of Transport's Motor Launch Regulations (1962) as honorary fisheries officers. Then, alternately encouraged by Ministry of Transport and MAF officials, and the National Parks Authority, it investigated the implications of several arrangements for its powers and responsibilities: a grant of control under the Harbours Act (1950), maritime planning possibilities under the Town and Country Planning Act (1977), marine reserve potential under the Marine Reserves Act (1971), and extension of Park boundaries over the foreshore under the National Parks Act (1952, 1981). While fluctuating in its preference for various options, the Board has tended to favour grant of control measures, together with fisheries regulations, and has begun procedures to attain these. This set of arrangements has elsewhere been termed "marine park" provisions.

A range of circumstances militated against the quick assumption of grant of control by the Park Board. From the beginning it received conflicting advice from government agencies, including differing legal opinions. Often, waiting for decisions from approval-granting agencies entailed long periods of inaction. The change in Park Boards in 1981 meant that consideration of the proposal was granted a lower priority than it would otherwise have held (Thorpe, pers. comm. 1981). Both Boards spent a

considerable amount of time designing by-laws which are required for grant of control, and deliberating over seaward boundary locations. By-laws were devised for the foreshore and then had to be revised when a boundary 800 m offshore was agreed upon by the Board (Thorpe, pers. comm., 1981). Decisions were complicated by a lack of information on the marine environment (Dooque, pers. comm., 1981).

Sometimes the Board would set grant of control procedures aside until inquiries from the National Parks Authority or Ministry of Transport elicited a response. The Board had adopted a "make haste slowly" policy, and cited "delicate relations" with the County Councils and private landowners involved as a reason for its cautious progress (Rowan, 1980a). This latter consideration stems from the situation of private baches and the County's unformed roads on the foreshore. Golden Bay County Council has agreed to give the unformed road areas to the Park, but the need remains to obtain County and bach owner agreement on the granting of control to the Park Board of foreshore fronting private inholdings. Without this, uninterrupted control of waters off the Park's coast would be impossible (Rowan, 1980b). The Park Board has carefully consulted these interests from an early stage to avoid political controversy over the issue (Dooque, pers. comm., 1981).

Evaluation. The major impediments to the Park Board's achieving socially and environmentally motivated goals thus appear to be primarily institutional, even though opportunities



for obtaining the necessary mandate existed. Part of the problem lay in difficulties surrounding the selection, interpretation and adaptation of an appropriate set of institutional arrangements from a range of alternatives. Complications involved in implementing measures to create a marine park are clearly formidable. While the Regional Park Board has had the full support and encouragement of central government agencies from the outset, it has been prudent in its approach to obtaining the cooperation of local authorities. The "make haste slowly" approach to social and political complications may prove beneficial in the long run, if it leads to acceptance of initiative conservation ideals by Park users and neighbours. Such an approach also allows time for complex options to be understood and carefully evaluated at each level of administration, particularly the local level.

#### Conclusion

Aspects of the case study analysis and evaluation are amalgamated here under four headings: issues, policies, institutional arrangements and overview.

Issues. A wide range of issue types was covered in the case studies. The Marlborough Sounds example focussed on the involvement of a conservation agency (the Maritime Park Board) in a resource management problem occurring in the waters fronting the agency's terrestrial reserves. The poor Knights Islands issue concerned the struggle of another

maritime park board, and government fisheries scientists, to achieve protection of the seas surrounding a group of island reserves. At Mimiwhangata Peninsula, a commercial interest, with the aid of a maritime park board, sought the protection of coastal waters to complement recreational use of protected private land on the coast of the Peninsula. The issue examined for the Ahuriri Estuary originated in public interest and involved controversy over both uses of, and means for protecting, the Estuary. For Abel Tasman National Park, seaward extension of control by the Park Board was the main concern.

The development of the five issues spans different periods of time, and none of the issues has been finally or absolutely resolved. Some issues centred on institutional arrangements, as at Mimiwhangata and Abel Tasman, while others involved more debate over priorities for resource use, as in the Marlborough Sounds case. Proponents of conservation ranged from government agencies, to a company, to local residents. All of the issues involved both resource and institutional considerations, and all involved the interaction of several interest groups or bodies. The processes of issue development and resolution were instrumental in the demonstration, and in some cases the evolution, of policy goals and ideals.

Policy. As stated in the introduction, policies for initiative conservation must place the highest priority on maintenance of the natural environment; but policies

should also emphasize provision of the opportunity for people to experience this environment so that they may be convinced of its value. To be effective, policies need the support of the users of the resources concerned and of the community affected by this use. Environmental (ecological) and societal (cultural, political and economic) factors are seen less as constraints or limitations on policy, and more as the source of needs which policy must attempt to meet, with some inevitable trade-offs. Difficulties and achievements in meeting these needs were exhibited by the case study experience. Those associated with first, environmental, and second, social, needs are summarized below.

An important factor in the development of appropriate policies for the conservation of the coastal environment is the availability of data on coastal ecosystems. Generally, information tends to be lacking on the marine side more than the terrestrial side of the interface. This is the case at Abel Tasman National Park. At the Poor Knights, the nature of the interaction between land and sea environments appears to need further study. In both situations, ignorance of ecosystem characteristics has made agreement on policies regarding the necessary degree of protection more difficult. A strong data base enables delineation of the minimum of restrictions on use necessary to maintain environmental quality. In none of the five areas studied was the exclusion of recreational use, including at least some forms of fishing, considered

necessary. If the data base is kept up-to-date through monitoring, then the option of flexibility of regulations in tune with changes in ecosystems and levels of human impact is maintained. This type of management is envisaged for Mimiwhangata.

Data showing the need for protection of coastal environments is usually necessary for government approval of conservation action; this may be part of the reason for prolonged delays in protecting some of the marine environments in the case study areas. In tune with initiative conservation ideals, information should also be applied to the identification of qualities associated with natural environments, rather than just degrees of degradation and levels of threat, so that these qualities can be appreciated as well as maintained.

All of the above attributes of a sound data base contribute to the formation of policies for the extension of coastal reserves across the land-sea interface. In each case study, interaction of processes on land and sea contributed to issue development, and in three of the five areas, an attempt was being made to establish a marine protected area adjacent to an existing terrestrial reserve.

A common justification for conservation of land and sea is the complex interplay of the two environments in the coastal ecotone. This justification lay behind efforts to protect waters around Mimiwhangata, through the recognition that increased use of the foreshore would impact coastal seas. Dependence of terrestrial ecosystems

upon marine ecosystems was part of the motivation for the Poor Knights Islands Marine Reserve. At Abel Tasman, extended control over foreshore is primarily to enable the eradication of negative impacts of foreshore uses upon the conservation values of National Park Land; whereas protection of coastal seas is to maintain a quality marine environment. Seas lying offshore from existing reserves often will be less modified by human activities because of the buffering effect of the reserves. Such is the case in the Marlborough Sounds, where marine farming has been attracted to the clean waters fronting reserves.

Overall, ecological reasoning was prevalent in policies for establishing marine protected areas adjacent to land reserves, and for extending the influence of conservation agencies over bordering foreshore and seas. Buffering, or the defense of existing initiative conservation values was one explanation, and the other was simply the desire to extend initiative conservation arrangements over areas that warranted such protection. Only in the Marlborough Sounds example were the dominant conservation values more directly related to park user satisfaction than to ecological priorities, and this was largely a function of the issue studied there. Nevertheless, in every case, policies exhibited in the issue analysis were also strongly influenced by societal factors.

The range of social groups requiring consideration in policies varied considerably among the case studies. In all cases, recreational user groups were accorded a high

priority. Sometimes these users were locally based, as in Napier at the Ahuriri Estuary, while recreationists came from a much broader area to other coastal sites, such as Abel Tasman National Park. Groups with economic interests in the study areas' resources were vocal in some cases and almost absent in others.

The Marlborough Sounds case study demonstrates how policies can cater to both regional economic needs and recreational reserve users, when the needs of the two groups are complementary. Similarly, the marine reserve at the Poor Knights will probably do little economic damage to the region's tourist industry. Economic spin-offs of initiative conservation areas can provide some justification for conservation, as the nursery value of the Ahuriri Estuary for commercial fisheries has been put forward in Napier.

Arguments against the implementation of conservation arrangements were more often associated with fears that customary recreational uses and access would be curtailed, than with economic loss. Proposals for marine conservation were especially vulnerable on this account because free access to and use of coastal waters is assumed to be a basic right by many New Zealanders. When local and regional populations were eventually convinced that their activities would not be limited either suddenly or severely, public acceptance of initiative conservation arrangements was more forthcoming.

Much of the opposition to conservation proposals in the two Northland case studies was based on fears of

restrictive measures that were never seriously mooted. Local suspicions of conservation motives might not have arisen if the public had been kept informed and involved in the development of proposals more thoroughly and from an earlier stage. Instead, policies were not clearly defined for the public until deadlocks finally resulted in the production of environmental impact reports. The reporting and audit process did help remedy the situation in Northland. Although there are fewer local interests involved in Abel Tasman National Park, the Park Board has accepted a very slow rate of progress on its extension of control, at least in part to assure that everyone affected by the proposal will be satisfied. In the case of the Ahuriri Estuary, vocal interest groups and the high profile of Estuary issues in the media meant that the public was thoroughly informed on conservation proposals. This information did not eliminate confrontation but it at least resulted in the expression of most values and priorities for consideration by policy makers.

Overall, policies for the study areas appear to have evolved in tune with initiative conservation priorities and suitably adapted to community needs. In most cases, policies were consistent over the period of study, although certain aspects surfaced only in response to the development of an issue. The confusion, controversy and delays described in the issue analysis then, were not generally founded in the policies themselves. They were, instead, partially related to information problems, to the

communication of policy to the public, and to the mandates and institutional frameworks for the expression of policy. The latter factor will now be explored.

Institutional Arrangements. The administrative and legal context for initiative conservation in each case study area is summarized in Table 1. The following discussion is organized into four sections: legislation, tenure, administration and planning.

Conservation interest groups calling for the protection of the Ahuriri Estuary proposed a designation that had no basis in legislation - the "National Estuarine Park". This could be blamed in part on the fact that the groups were unfamiliar with the mandates for conservation held by government agencies. However, in three other case studies where agencies with conservation mandates were more directly involved, policies, if not designations, were proposed that had no obvious legislative backing. Legal alternatives for the protection of coastal waters were particularly limited. This situation may be remedied by the passage of a new Marine Reserves Act which allows for the implementation of a broader range of policies.

In the absence of legislation that is directly suited to initiative conservation purposes, proponents in the case study areas were faced with the options of waiting for new legislation or amendments, or "making do" with existing legislation. The first option was usually assumed to entail inestimable delays that were unacceptable because



of threats to the coastal environments involved. An amendment to the Marine Reserves Act (1971) did permit the protection of the Poor Knights' marine environment, but the underlying bias of the Act towards more strictly protected areas was partially to blame for the negative reception of the reserve proposal by the public. The public's reaction in this case showed that misunderstandings can arise from the stretching of an act to fill needs other than those for which the act was designed. Another potential problem is that future managers who were not involved in the initial application of the legislation could lose sight of policies that are not precisely met by that legislation.

In other case study areas, no attempt was made to adapt existing initiative conservation legislation to local needs. Instead, defensive conservation legislation and planning legislation was used to achieve initiative conservation ends. The combination of the Harbours Act (1950) and the Fisheries Act (1908) to create a "marine park" is being attempted offshore from a company owned "farm park" and off a national park. In both cases, implementation of combined legislation has proven problematic, but with the cooperation of the various agencies involved, appropriate frameworks for initiative conservation policy could emerge. Provisions of the Marine Farming Act (1971) and statutory planning mechanisms allowed the Marlborough Sounds Maritime Park Board to extend its influence outside park boundaries in a defensive

manner. Zoning provisions of the Town and Country Planning Act (1977) have been used for initiative conservation at the Ahuriri Estuary; however, objections to this application of zoning powers could have the "Estuarine Park" annulled.

In places, the use of defensive conservation measures to augment initiative conservation arrangements appears to be appropriate to human and resource needs. The success of such a combination has been exhibited in the Marlborough Sounds, and a similar approach has been proposed for the protection of the trevally outside the Poor Knights Marine Reserve.

Maritime Park Boards had a prominent role in three case studies. The Marlborough Sounds Board has developed consistent initiative conservation policies in the execution of its powers under the Reserves Act (1977), without legislative assurance of a continued future for the Park or the Board. Uncertainty over the continuation of the Bay of Islands Maritime and Historic Park Board has been a major impediment to the protection of waters off Mimiwhangata Peninsula. Legislation for maritime parks in NZ would be suitable encouragement for a proven, workable approach.

Most of the land and all of the water in the conservation areas studied was in "crown" ownership, that is held by the central government on behalf of the public. Other types of tenure did, however, complicate issues in most areas. In the Marlborough Sounds, where private lands are

interspersed with park lands, the Park Board has been careful to maintain rapport with landholders, by supporting local interests along with initiative conservation policies. Similarly, the Abel Tasman National Park Board has exercised prudence in executing policies that demand the cooperation of those who own coastal parcels of land within park boundaries.

At Mimiwhangata, the proponent of conservation was a private landholder. For the protection of the public interest, the company involved was required to enlist the cooperation of a public body (a Park Board) before it could extent its control seaward. While the public was more difficult to convince of the sincerity of conservation goals than was the park board, the involvement of a private interest appears to be gaining acceptance. Generally, conservation arrangements over areas including land in private tenure may be less certain than those wholly owned by the public, yet this option may increasingly have to be considered, as coastal lands that are unalienated from public ownership become more scarce.

Although tenure was not a high profile issue in the struggle to protect the Ahuriri Estuary, the fact that the estuary bed was owned by a local body may have been a major reason for the apparent lack of interest on the part of government departments holding conservation mandates. Many coastal areas suitable for initiative conservation, especially estuaries like the Ahuriri, will fall in near-urban locations. Conservation arrangements for them will

likely be complicated by the involvement of private interests and local bodies with rights of tenure. If planning provisions for initiative conservation prove unacceptable in such situations, then steps such as those taken at Mimiwhangata to coordinate public and private interests may have to be initiated by an agency with a conservation mandate.

At the national scale, coastal conservation in NZ is less encumbered by tenure constraints than elsewhere, because the central government has administrative responsibility for coastal waters and public land. Also, the "Queen's Chain" provision and the Coastal Reserves Survey have ensured that much coastal land remains in public ownership, and thus is more accessible for initiative conservation purposes.

Legal arrangements for the establishment of a conservation area spanning the land-sea interface were discussed above. Associated administration is similarly complicated. Designation of a joint terrestrial and marine reserve can only be achieved with the participation of two or more administrative bodies. This could present difficulties for the regulation of recreational uses which traverse the interface, and for the management of interacting terrestrial and marine ecosystems, unless the administrators coordinate their policies carefully.

Complicated administrative arrangements for coastal conservation are symptomatic of coastal administration in NZ generally. Because the jurisdictions of most government

agencies involved in land or water management end at a boundary lying on one side of the foreshore, many agencies hold responsibilities for various aspects of coastal zone management. The involvement of three central government agencies and at least two local bodies in the coastal zone at Abel Tasman contributed to the difficulties faced by the Park Board in its attempt to extend control seaward. At the Ahuriri Estuary, a complex jurisdictional situation has probably been a dominant factor in delaying action to protect the estuary.

Another aspect of administration that influenced issue development and resolution for some case studies was the matter of local representation on management bodies. In the Marlborough Sounds, local membership on the Park Board helped the Board to devise policies that were acceptable to local residents. In Northland, when a body comprised mainly of outside interests became involved, political repercussions halted progress on the Mimiwhangata Marine Park proposal. Direct local representation in administration aids in the interpretation of community needs, and in gaining the local public's confidence in conservation policy.

Initiative conservation agencies can also enhance their understanding of social priorities through management planning exercises, and participation in ad hoc research projects and regional planning activity. These processes aid coordination among coastal agencies as well, contributing to the achievement of initiative conservation objectives.

In the Marlborough Sounds, Park Board membership on the Maritime Planning Committee meant that initiative conservation values were considered in the design of management policies that would affect coastal reserves. Maritime planning is not widely instituted in NZ, but statutory regional planning could, in some places, provide a similar opportunity. Recognition of reserves in regional planning is especially important where coastal reserves are linear and/or disjointed and are thus exposed to bordering impacts on many fronts. Participation in regional planning can also strengthen a conservation agency's public image.

Partially because of its involvement in planning outside reserve areas, the Marlborough Sounds Maritime Park Board was able to express policy goals and ideals without a management plan for the Park. Statement of goals in a management plan for Abel Tasman National Park did not ensure prompt action to achieve the goals, but the plan at least made Park Board intentions clear to the public. Plans and research reports produced for Mimiwhangata could have served the same purpose if they had been made available to the public, but the private interest concerned was not obliged to distribute these documents.

No plans or reports were provided to the public in the two Northland cases until formal environmental impact report and audit procedures were undertaken. Conflicts and misunderstandings in these places may not have reached such a volatile level if similar studies had been conducted

earlier. Conservation groups wishing to resolve conflicts at the Ahuriri Estuary prompted the production of an "environmental report". Although this report was produced outside of any formal guidelines, it did facilitate the representation of various interests in the estuary, and it provided a base for policies later expressed in the Napier District Scheme. An ad hoc steering committee which had intended to produce a management plan based on the report never completed this project. In this case, a legal obligation might have prompted some results.

In Abel Tasman National Park and the Marlborough Sounds, the very gradual evolution of issues and policy response may be partially responsible for the low levels of controversy surrounding policy execution. Extended planning processes and incremental implementation of arrangements may draw in a broader range of participants and make agency responses to issues more comprehensible to the public than do relatively quick decisions based on pre-set policies (as at Mimiwhangata).

At the national level, Lands and Survey Department's Coastal Reserves Survey has lent some rationale to the designation of terrestrial reserves around NZ's coast. Such coherence is so far lacking with regards to the conservation of coastal marine areas. The Ministry of Agriculture and Fisheries has not exerted comparable effort in the implementation of the Marine Reserves Act (1977). The broader scope of the new marine reserves legislation may be more conducive to implementation on a systematic

basis, if and when the Bill is passed by parliament

Overview. Although the case studies represent only a limited sample of administrative and legal alternatives, they demonstrate the adequacy of institutional arrangements in relation to local resource and community needs more clearly than could a broader scale examination. A longer time horizon would be necessary to accurately evaluate the utility and the impact of the arrangements currently being tested in the case studies; yet observation of policies and interests reflected in the issues analysed here does indicate certain limitations in NZ's institutional framework for coastal initiative conservation.

Legal and administrative mechanisms for the conservation of coastal lands have diversified over the years, allowing for a wide range of reserve types and flexible management provisions. In contrast, marine reserve designations are extremely limited, even a decade after the passage of the first enabling legislation. This could be related in part to the lack of obvious need for the protection of coastal waters. Even for coastal conservation areas with an obvious maritime character, such as the Marlborough Sounds Maritime Park and Abel Tasman National Park, administrative bodies have only recently become involved in the management of offshore areas.

The recreational value of the marine environment has jstgt come to be appreciated in its underwater dimension through the increase of sport diving. Now a few marine X



areas are being conserved for their special biophysical qualities rather than simply to complement terrestrial protected areas. If the current Marine Reserves Bill is enacted, then the viability of a range of reserve types similar to those on land will be tested. Alternatives to conventional approaches to initiative conservation may eventually have to be devised for the three-dimensional fluid environment of the sea. If extractive recreational uses such as fishing are to be continued, regulatory mechanisms will have to be more adaptable than is usually the case, to minimize impacts on the protected resource.

At present, in NZ there are no institutional arrangements for the conservation of a continuous area of land, foreshore and sea under a single set of regulations and a single administrative body. This situation is likely to be perpetuated, because mandates for conservation on either side of the land-sea interface are held by different government departments. The strongest hope for rational management of the coastal ecotone in an initiative conservation area thus depends on the cooperation of the two departments involved. They must promote the implementation of compatible terrestrial and marine designations, and they must allow the appointment of a single administrative body for the reserve, with fully legislated powers. Passage of the Marine Reserves Bill (1983) would facilitate such an arrangement by enabling a land-based conservation agency to assume responsibility for a marine reserve.

Another possible explanation for the lack of progress in initiative conservation over coastal waters is a lack of government support for the concept of marine protected areas. Government may be reluctant to enter this field of management for fear of interfering with the traditional image of unlimited access to the sea. For coastal land areas, at least nominal government support for conservation has been institutionalized in the Town and Country Planning Act (1977). The strength of this rather vague provision (see page 6) has yet to be fully tested, in places like the Ahuriri Estuary.

The Ahuriri case study has demonstrated the potential role that the public can play in initiating coastal conservation, especially where government agencies have been unresponsive. The progress made towards initiative conservation at the Ahuriri Estuary is only one example of the utility of informal processes that take place outside of legislative frameworks. Such processes had a vital influence on conservation policy in most of the study areas. The purpose of the present study was not to examine these processes in detail, but to determine the extent to which all policy development and implementation is facilitated or encumbered by institutional arrangements.

The combined case study experience shows that initiative conservation policies can develop which are appropriate to resource and societal needs. Adequate consideration of community interests implies that the policies are potentially implementable. In some cases,

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policies emerged in concert with the mandates of the agencies involved, but in others, policy goals and ideals either exceeded these mandates or were formed outside of existing mandates. Under these circumstances, the eventual search for legal and administrative frameworks for policy expression was often unsuccessful, and implementation was thus delayed or even prohibited.

A need to broaden the institutional base for coastal conservation has been identified, but this is at best a long term solution. In the shorter term, ways of making the existing institutional system more useful should be sought. Coordination between agencies in the system, and between these agencies and the public, is seen to be an important factor in successful policy implementation. Cooperation could be greatly assisted by a sound understanding, on the part of all participants, of existing institutional arrangements. A lead agency or an inter-departmental committee could inventory and summarize the administrative and legal alternatives for coastal conservation in a document for the use of government agencies, local bodies and the public. This information would not only assist coordination; it would aid in the selection of the most appropriate arrangements available for the expression of any given set of coastal conservation policies.

## Acknowledgements

Expenses for this work were met by the New Zealand Lands and Survey Department through a research grant. The Department also provided field assistance. Much of the material in this paper appeared in background papers submitted to the Third World National Parks Congress in Bali, Indonesia (Gardner, 1982(a), 1982(b)). Professor Peter Holland, Dr Garth Cant and Dan Moore assisted in editing and revisions.

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**Figure 6 Abel Tasman National Park**



Figure 1 J.E. Gardner  
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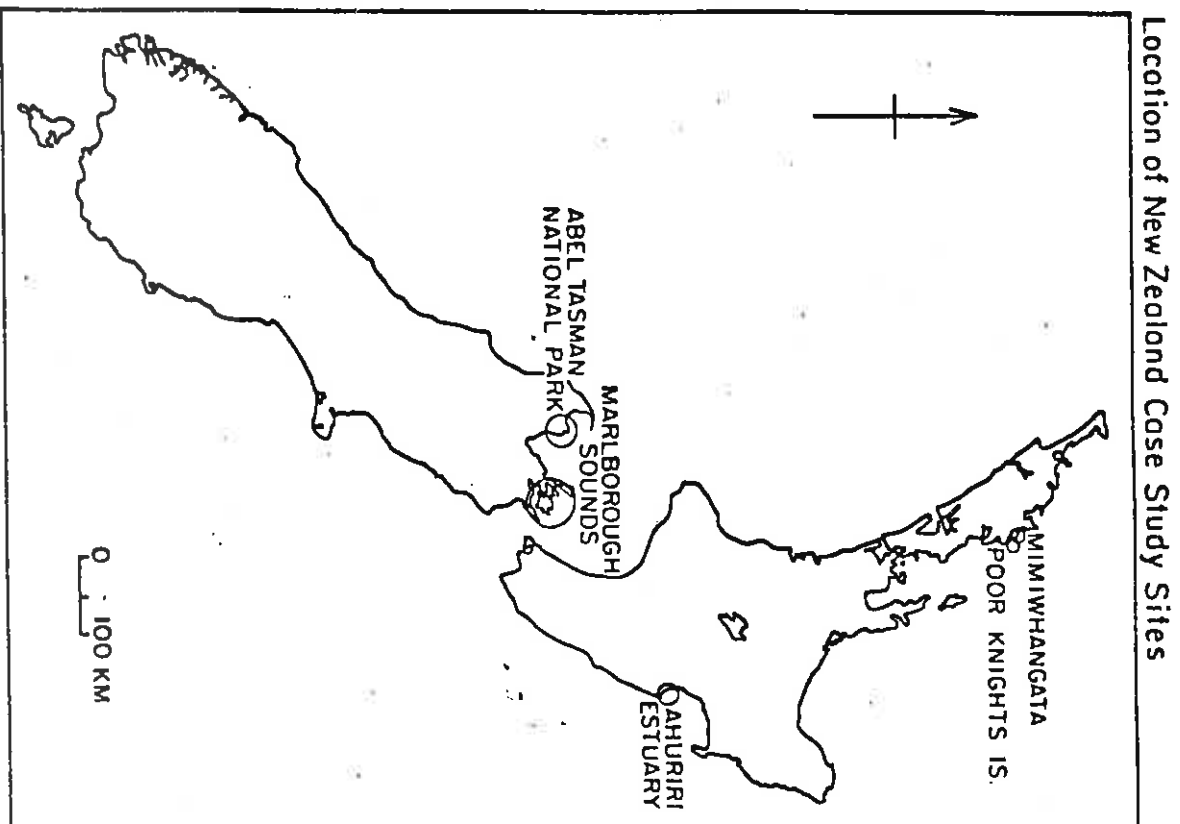


Figure 2 J.E. Gardner  
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Marlborough Sounds Maritime Park

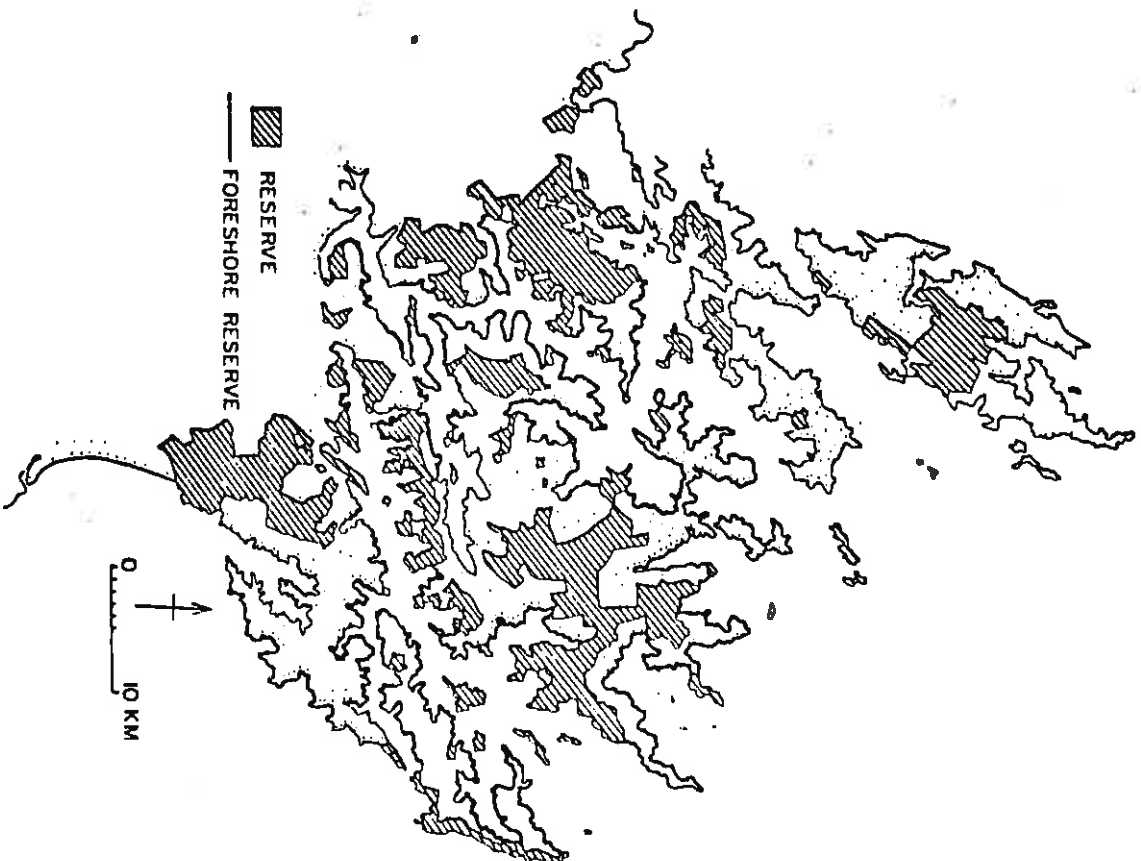


Figure 3 J.E. Gardner  
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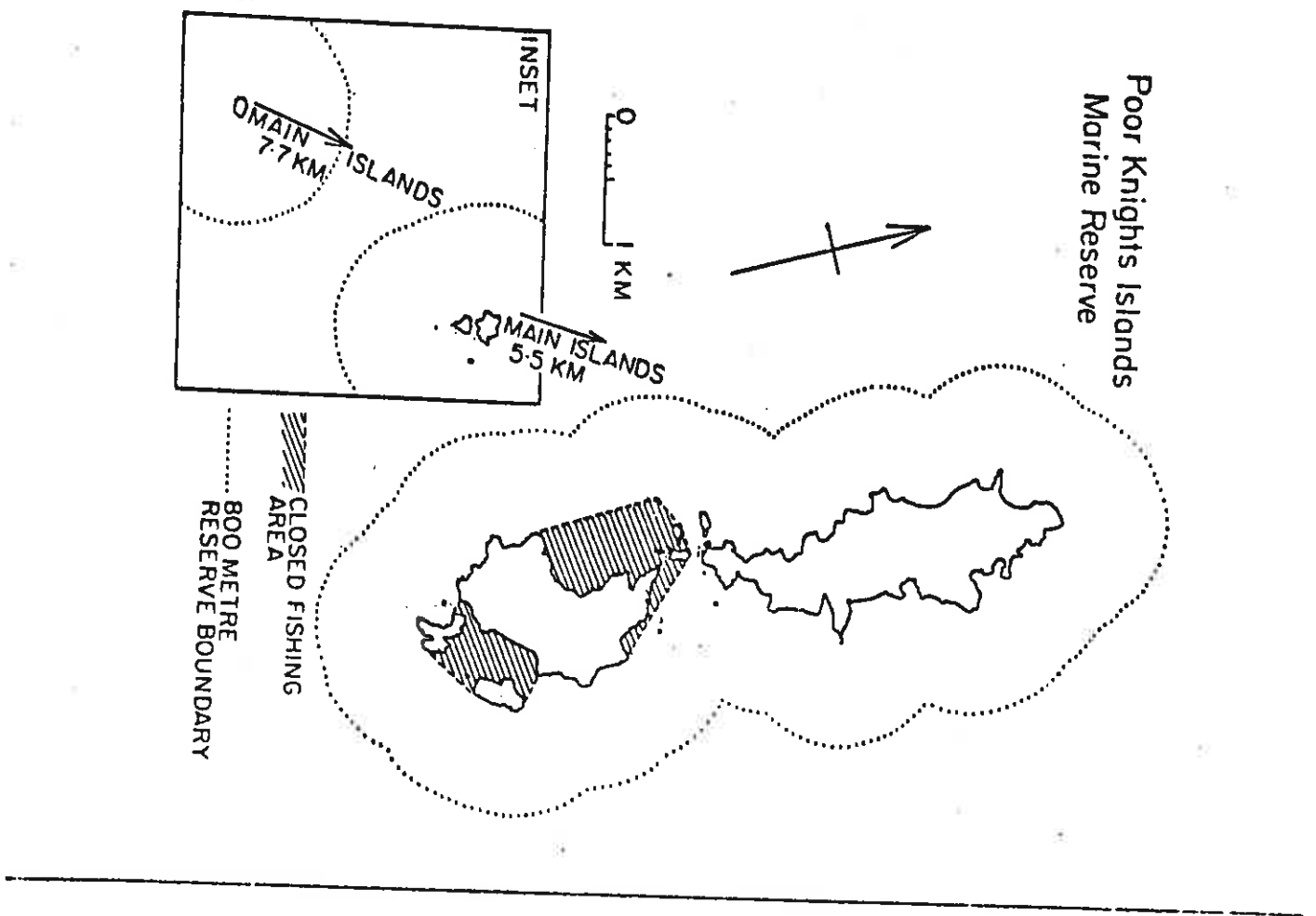


Figure 4 J.E. Gardner  
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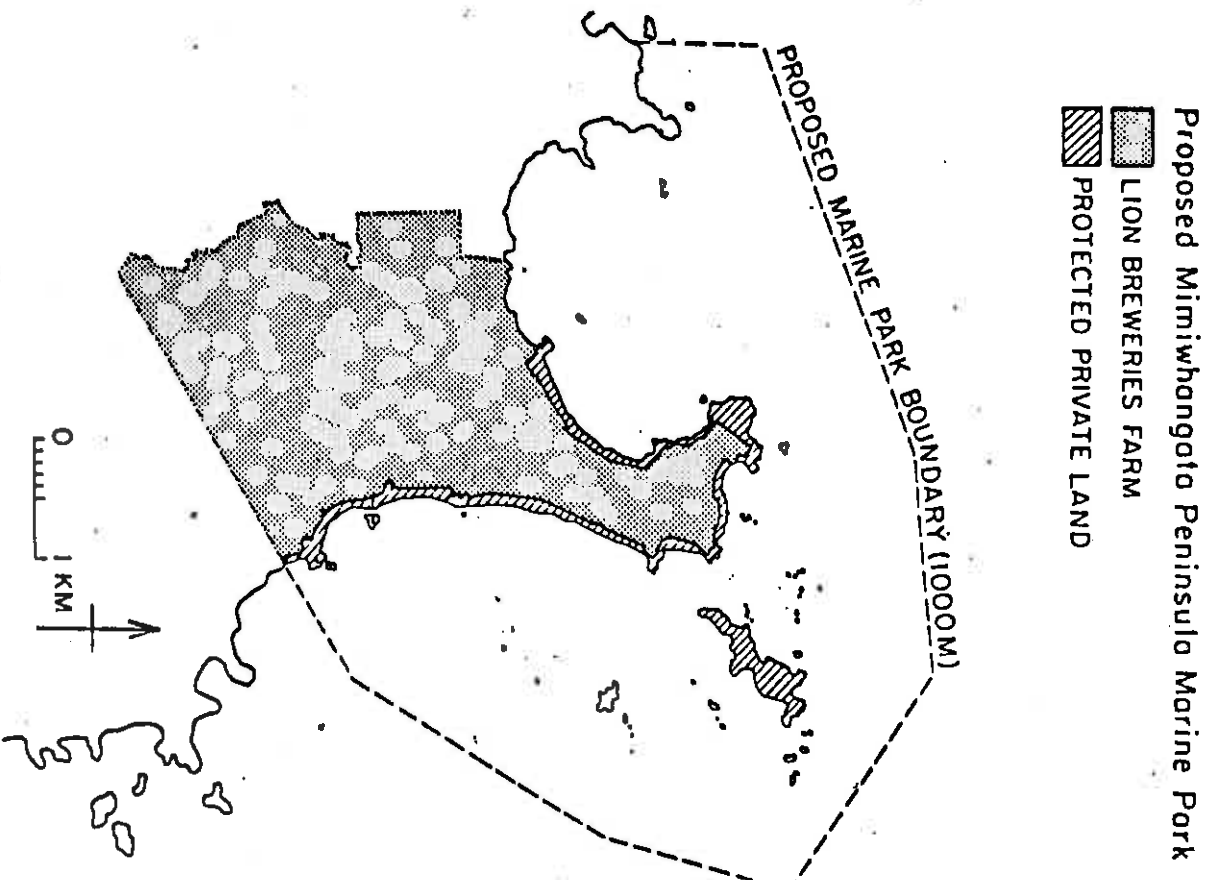


Figure 5 J. E. Gardner  
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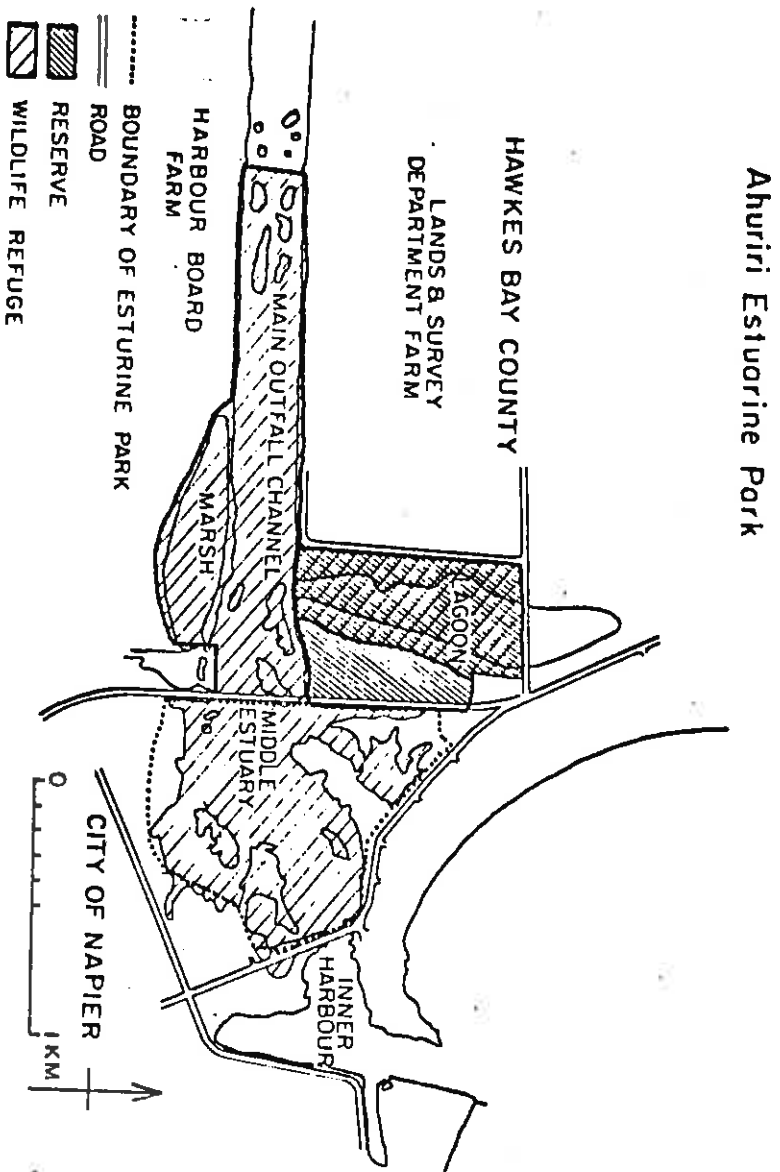


Figure 6 J.E. Gardner  
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Abel Tasman National Park

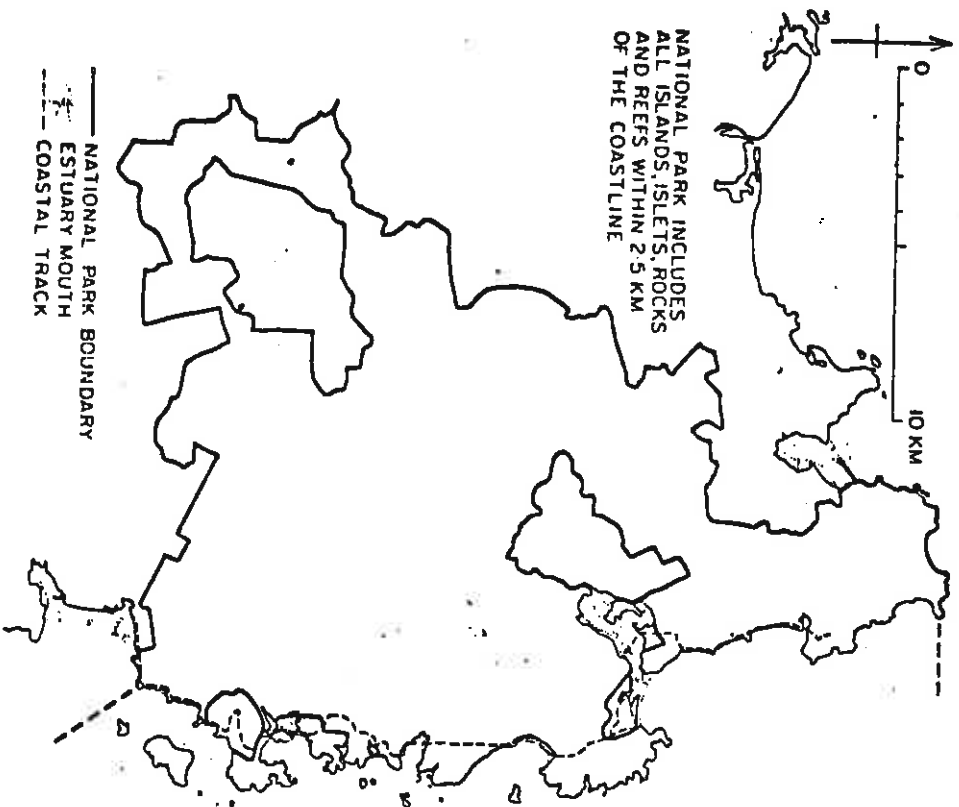


Table 1: Institutional Arrangements for Coastal Conservation in Five New Zealand Examples

Institutional Arrangements Study Area	Designation (date established)	Management Body Government Department	Enabling Legislation	Tenure	Management Plans
Marlborough Sounds Land	Maritime Park (1972) Sounds Foreshore Reserve (1955) Reserves, mainly scenic (19th century to present)	Marlborough Sounds Maritime Park Board Lands and Survey Department	No legislation for Park Board Reserves and Other Lands Disposal Act (1955) Reserves Act (1977)	Crown (Public)	Individual Reserve Plans in Progress
Land Foreshore and Water	Nature Reserve (1922) Marine Reserve (1981)	Hauraki Gulf Maritime Park Board Lands and Survey Poor Knights Islands Marine Reserve Management Committee Ministry of Agriculture and Fisheries	Reserves Act (1977) Hauraki Gulf Maritime Park Act (1967) Marine Reserves Act (1971)	Crown Crown	Plan required Plan required Impact report and Audit complete
Whangata Land Foreshore and Water	"Farm Park" (1975) Protected Private Land/Recreation Reserve (1979) Marine Park (proposed)	Mimiwhangata Farm Park Trust Joint Management Committee (Trust and Park Board, below) Hauraki Gulf Maritime Park Board or Bay of Islands Maritime and Historic Park Board Lands and Survey Ministry of Transport Agriculture and Fisheries	No legislation for farm park Reserves Act (1977) Hauraki Gulf Maritime Park Act (1967) No legislation for BIMPP Harbours Act (1950) Fisheries Act (1908)	Private Crown	Plans prepared by consultants to Trust Plan proposed Impact report and Audit complete
Land Foreshore and Water	"Estuarine Park" (1981) Wildlife Refuge (1958) Reserve (pre-1958)	Napier City Council Wildlife Service Department of Internal Affairs Hawke's Bay Wildlife Trust Lands and Survey	Zoning Provisions of Town and Country Planning Act (1977) Wildlife Act (1953) Reserves Act (1977)	Mainly Hawke's Bay Harbour Board (Estuary Bed) Some public	Plan proposed
Land Foreshore and Water	National Park (1942) Marine Park (proposed)	Nelson District National Park and Reserves Board (formerly Abel Tasman National Park Board) Lands and Survey Nelson District National Park and Reserves Board Lands and Survey Ministry of Transport Agriculture and Fisheries	National Parks Act (1981) Harbours Act (1950) Fisheries Act (1908)	Crown Crown	Plan prepared by former Park Board No information

*NRS 9/1/84*

*How does this sit with your project proposal?*



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## INSTITUTIONAL ARRANGEMENTS FOR COASTAL CONSERVATION IN NZ

I have attached a copy of a paper entitled "Institutional Arrangements for Coastal Conservation in NZ" written by Ms Julie Gardiner of the Geography Department, University of Canterbury.

The paper arose from a 1980 research contract drawn up between the department and Canterbury University. The goal of this contract was to develop an aid to national management of coastal conservation lands; and to:-

- (i) produce a method for describing, comparing and contrasting different sets of policies and institutional arrangements for coastal conservation
- (ii) produce guidelines for the investigation of areas potentially requiring conservation measures that will facilitate the selection of the appropriate measure(s)
- (iii) identify conflicts and lack of coordination among conservation agencies concerned with the coast, and
- (iv) identify shortcomings in institutional arrangements for coastal conservation land management.

The University's final report will be in the form of Ms Gardiner's thesis.

Could you please peruse this paper and forward to the office any comments on any points you consider worthy of mention.

*D. S. Bayley*

D S Bayley  
for Director-General