

COASTAL RESOURCE INVENTORY

FIRST ORDER SURVEY

WANGANUI CONSERVANCY

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**CONSERVATION
TE PAPA ATAWHAI**

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PREFACE

The Coastal Resource Inventory (CRI) programme is an ongoing project of the Department of Conservation. The programme is organized into First, Second and Third Order Surveys which span the coastal zone of New Zealand. The First Order Survey provides the basis for a national overview of coastal conservation values and is derived from information on the physical, biological and human resources of the coastal zone. The Second Order CRI Surveys will provide regional overviews for each of the Departments Conservancies. Third Order Surveys will provide detailed information at a site specific level for a specific purpose.

The coastal zone covered by the Coastal Resource Inventory is an area bounded by the outer limits of the New Zealand Territorial Sea, 12 nautical miles offshore and the landward limit of marine influence. The latter varies from place to place depending on site specific physical, biological and human factors.

The First Order Coastal Resource Inventory presented here covers the coastal zone of one of the thirteen coastal conservancies of the Department. It is based on existing information compiled by conservancy staff from regional and national databases, published and unpublished reports, limited field surveys and personal or anecdotal information from various experts. The information has been compiled according to guidelines and standards set by the Departments' Coastal Resource Inventory Taskforce.

As one might expect, the First Order Survey has revealed a substantial variation in the quality and quantity of information between Conservancies and also between information categories. In general there is more information about the resources and attributes of the landward part of the coastal zone than the seaward part, especially offshore. Conservancies with large metropolitan centres such as Auckland have more information than the remote coastal areas of New Zealand such as the East Coast. This does not mean that the latter areas are lower in coastal conservation values or resources. Rather, it simply reflects the lack of knowledge and possible directions for further work, so that a balanced national overview of coastal conservation values and resources is eventually obtained.

The First Order CRI provides essential information for managers, planners and users of the coastal zone of New Zealand. The national overview provided by the First Order Survey will be updated from time to time by the Department as new information comes to hand.



Bill Mansfield
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DEPARTMENT OF CONSERVATION

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NATIONAL OVERVIEW

INTRODUCTION

The Coastal Resource Inventory (CRI) programme was initiated in 1987 as the Department of Conservation's principal tool for breaking the cycle of reactive management that has characterised coastal management in New Zealand in the past. CRI provides important information on the physical, biological, recreational, cultural, historic, archaeological, human modification, uses, protection and threats to the coast.

The First Order Survey consists of thirteen volumes, one from each coastal conservancy (Northland, Auckland, Waikato, Bay of Plenty, East Coast, Hawke's Bay, Wanganui, Wellington, Nelson/Marlborough, Canterbury, West Coast, Otago, Southland). Each volume includes a brief description of the conservancies' coastal zone, a summary of the conservation values, a list of issues of concern and recommendations for further work. The information is described on site sheets and plotted on maps at a scale of 1:250 000 to give a broad, overall impression of the coastal conservation values within each conservancy.

In addition to its primary use for coastal management, First Order CRI information will help identify areas suitable for marine reserves and aid in the advocacy role of the Department at both the national and conservancy level.

Mission Statement:

The primary mission of the First Order Survey was:

"To provide information for the maintenance, enhancement and restoration of natural character and qualities of coasts and their sensitive use."

The following specific tasks were developed to achieve the mission:

1. *"To identify coasts with important natural, scientific, historic, cultural and spiritual values;*
2. *to identify coasts currently protected and warranting protection;*
3. *to identify coastal conservation values susceptible to existing and potential threats;*
4. *to identify human modification and uses of coasts".*

INSTRUCTIONS FOR USE OF THE COASTAL RESOURCE INVENTORY

This folder consists of an introduction, summary, site record forms, and maps. The site record form gives written information on each site and is to be used with corresponding maps for that site.

Read the site record form with its corresponding maps by following these steps:

SITE RECORD FORMS

1. Turn to the site record forms.
2. Find the site number in the top right-hand corner of the page e.g. CRI 01 0001. The number 01 represents a conservancy coastline. Refer to map of New Zealand below e.g. 01= Northland Conservancy. The number 0001 refers to a particular site e.g. Firth of Thames.
3. Each site record form gives written information on the following:

natural values cultural values historic values	}	site of conservation value
--	---	-------------------------------

existing threats
 human use and modification
 existing protection

4. Letter codes (a,b,c,d,e,f,g) give detail for each part of the information on the site record form. A key is provided on the maps and the codes are listed in the "Methods" section.

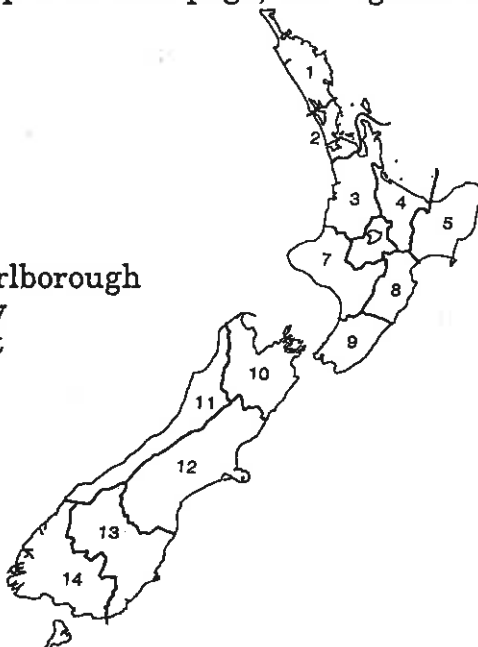
MAPS

5. Turn to the map index overleaf. The index gives the site number and its corresponding maps.
6. Find the corresponding maps in the second part of the folder.
7. Accompanying the maps are two transparent map overlays:
 - i) CONSERVATION VALUES overlay
 - ii) BASE MAP overlay
8. The BASE MAP and CONSERVATION VALUES overlays are designed to lift out and overlay onto each of the previous pages (i.e. natural, cultural, historic, human modification and use, existing threats, existing protection etc.)
9. To accurately overlay the base map with each page, use register marks which are found on each map.

i.e.  overlays on 

DEPARTMENT OF CONSERVATION COASTAL CONSERVANCIES

- | | |
|------------------|------------------------|
| 1. Northland | 8. Wellington |
| 2. Auckland | 9. Nelson/ Marlborough |
| 3. Waikato | 10. Canterbury |
| 4. Bay of Plenty | 11. West Coast |
| 5. East Coast | 12. Otago |
| 6. Hawkes Bay | 13. Southland |
| 7. Wanganui | |



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METHODS

The information for the First Order Survey has been collated and mapped in six major categories: natural, historic, cultural, existing threats, human modification and use, and existing protection.

1. Natural Values:

Information on known areas of physical, biological and ecological value in the coastal zone under the following headings:

- a - High degree of naturalness
- b - Rare/unique species, communities or habitats
- c - Important breeding/feeding/roosting/haulout/nursery areas
- d - Fragile/environmentally sensitive areas
- e - Unique or unusual landforms
- f - Representativeness
- g - Known scientific value
- h - National or international importance
- i - Other

2. Cultural Values:

Areas of important Maori and non-Maori cultural values in the coastal zone under the following headings:

- a - Traditional values
- b - Aesthetic value
- c - Landscape (seascape) value
- d - Spiritual value
- e - Educational value
- f - Other

3. Historic Values:

Areas of important historic and archaeological value in the coastal zone under the following headings:

- a - Known historic value
- b - Archaeological value - Maori origin
- c - Archaeological value - Non-Maori origin
- d - Shipwrecks and wreck sites
- e - Known national or international significance
- f - Other

Explanatory Notes

(i) The decision to include the attributes "high degree of naturalness", "representativeness", aesthetic value", "land/seascape value" and "spiritual" value was based on the experience of the data recorder.

The Natural, Cultural and Historic categories of information were combined to form the Conservation Value overlay map, where all features of natural, historic or cultural value were overlaid then amalgamated to form sites of conservation value (Conservation Sites). For each of these sites a brief description was provided on the Site Record Form. The Site Record Form contains details of the conservation values mapped and includes the following three other categories (4-6) that impact on these values:

4. Existing Threats:

Threats may be natural or human induced activities that are or have a history of damage or destruction of the coastal resources. Information on the following was collated and mapped:

- a - Erosion, flooding, landslip
- b - Siltation
- c - Noxious and invasive exotic plants
- d - Noxious or farmed animals
- e - Water pollution
- f - Mining
- g - Shore stabilisation works
- h - Aquaculture
- i - Fishing techniques
- j - Spoil and refuse dumping
- k - Recreation
- l - Coastal subdivision
- i - Other

Explanatory Notes

(ii) The inclusion of "recreation", "mining", "aquaculture" and "fishing techniques" in the "Existing Threats" category was only used where these activities threatened conservation values. It is acknowledged that there are many places where these activities do not pose a threat.

5. Human Modification and Use:

Information on the following was collated and mapped:

- a - Land development
- b - Reclamations and causeways
- c - Commercial port areas
- d - Small boat harbours and moorings
- e - Outfalls, major pipeline and cables
- f - Artificial cuts
- g - Beach replenishment
- h - Shoreland-based recreation
- i - Water-based recreation
- j - Traditional Maori use
- k - Other

6. Existing Protection:

Areas of varying protection status in the coastal zone were mapped, including:

- a - National protected areas
- b - Regional protected areas
- c - Local protected areas
- d - Protective zonings
- e - Marine parks
- f - Private protected areas
- g - Voluntary protection of areas
- h - Rahui
- i - Other

Evaluating Site Importance

Evaluation of site importance was largely species based using the following criteria: The criteria for fauna (Bell, 1986) and flora (Given et al, 1987 and Wilson and Given 1989) are based on the IUCN Red Data list.

1. If a species of plant or animal is listed as endangered and it is an endemic species, then the place(s) where this plant or animal still remain are of INTERNATIONAL importance.
2. If a species of plant is vulnerable or rare, then the site where it naturally occurs is of NATIONAL importance. Similarly if a species of animal is classified as threatened or rare then the site is of NATIONAL importance.
3. For a species of animal that is classified as threatened regionally only, the site has regional importance.
4. Where sufficient information allowed the Ramsar convention was used to determine site importance in Wellington, East Coast and Bay of Plenty. The Ramsar convention states; *"a site is of international importance if 1% of the total*

population of a species or subspecies is found there or if the area supports 1% of breeding pairs".

5. Other information on site importance from the historic or cultural categories which is documented in the literature was also used.
6. The highest level of importance for any category located within a site is given to the whole site.

Explanatory Notes

(iii) The site importance is not a ranking system for the sites. It merely indicates whether there is a feature present at the site which is of known importance. The Conservation Sites identified in the First Order Survey vary considerably in size and importance.

(iv) Wildlife which have an established international conservation status in New Zealand include the terrestrial mammals, birds, reptiles and amphibians and terrestrial arthropods and molluscs. There is no established status list for fish, marine invertebrates and marine mammals. This means that the assessment of comparative site importance in this survey has an unavoidable bias towards the importance of terrestrial wildlife.

(v) Archaeological site information was presented here without comment on its comparative importance. This was necessary because:

(a) authority to assess archaeological site importance under the Historic Places Act 1980 rests with the New Zealand Historic Places Trust, for the purpose of regulating site damage.

(b) No methodology is recognised for assessing comparative importance in a similar manner applied to the other resources described here.

GLOSSARY

archaeological site	Any place in New Zealand associated with human activity which occurred more than 100 years before that time.
historic place	A place which is associated with the past. This includes archaeological sites, traditional sites, buildings, natural objects and historic areas.
holostratotype	A geological term describing the type section that has become the time definition for a New Zealand stage.
tombolo	A bar connecting an island with the mainland or with another island.
type locality	The place where a geological formation is named, and is typically displayed.
ventifact	Rock cut by wind-blown sand.

BIOLOGICAL TERMS:

endangered	Species in danger of extinction and whose survival is unlikely if the causal factors continue operating. Included are those whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are considered to be in immediate danger of extinction.
threatened/ vulnerable	Species believed to likely to move into the endangered category in the near future if the causal factors continue operating.
regionally threatened	Where species are considered to be threatened regionally.
rare	Species with small world populations that are not at present endangered or vulnerable, but are at risk. These are usually localised within restricted geographic areas or habitats or are thinly scattered over a more extensive range.
indeterminate	This category is used for plants thought to be extinct, endangered, vulnerable or rare, but for which there is insufficient information to allow allocation to a category.

In New Zealand a category additional to those used by IUCN (International Union for the Conservation of Nature and Natural Resources) has been found useful:

local	This category includes plants not under threat but potentially threatened, and hence deserving some level of monitoring and possibly protection. Included are regional endemics, plants of potentially vulnerable habitats, and species occurring as frequent but small populations.
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endemic	A species which is confined to New Zealand and is not found elsewhere.
endemic subspecies	A subspecies or geographic race which is confined to New Zealand.
introduced	A species which has been transported to New Zealand, and helped establish by humans.

MAORI**ENGLISH**

hāngi	earth oven
hapū	section of large tribe, clan, subtribe
iwi	nation, people; tribe that traces its history back to a common ancestor
kai moana	food from the sea
kāinga	dwelling place, village
kaitiaki	guardian, keeper
Kaumātua	adult, old man or woman
kōhatu/ toka	stone, rock
mātaitai	food resources from the sea
mahinga mātaitai	the areas from which these resources are gathered
mahinga kai	sites for harvesting kai moana according to tribal customary values
mana	authority, control; influence, prestige, power; psychic force
mana whenua	customary authority exercised by a tribe in an identified area
marae	enclosed space in front of a meeting house, courtyard
mauri	life principle which is latent in all things
midden	Māori shell deposits
moana	sea
Moriori	tangata whenua of Rēkohu (Chatham Islands)
pā	fortified place
rāhui	control/ restriction (e.g. fishing control)
rūnanga	assembly/ council
taiāpure	area of coastal water set aside under the Maori Fisheries Act 1989 as a local fishery because of its special significance to an iwi or hapū, either as a source of food or for spiritual or cultural reasons
Tangaroa	god of the sea
Tangata whenua	indigenous people
tapu	sacred, forbidden (tapu consists of different levels of prohibitions)
tauranga waka	original canoe landing site
tupuna/ tipuna	ancestor/ grandparent
urupā	burial place
wāhi tapu	sacred site
waka	canoe; supra-tribal grouping
whānau	family

SUMMARY

WANGANUI CONSERVANCY

Coastal Resource Inventory

First Order Survey - Summary

The Coastal Resource Inventory (CRI) primarily collated existing information on the coastal and marine environment in the Wanganui Conservancy. This information was then placed on maps and overlays and supported by individual site record forms.

Four broad coastal units were identified in the Wanganui Conservancy. These are:

1. Wanganui River to Manawatu River (an extensive area of sand dunes broken only by major river systems).
2. Opunake to Castlecliff (an area of coastal cliffs which are broken intermittently with sand dunes).
3. Motunui to Opunake (an area of cobbled beaches and high cliffs generally described as Cape Egmont).
4. Mokau to Motunui (an area generally known as the North Taranaki coastal cliffs).

Each map sequence has a series of overlays depicting natural, historic and cultural values, as well as existing protection, human modification and use, and threats to each site identified on the coast.

The Conservation Value overlay summarises the "conservation values" of this conservancy's coast and comprises an amalgamation of the natural, historic and cultural values. Each site marked on the map relates back to a specific site record form which details the values of each coastal site, eg. historic pa site.

As a first order survey of the coast it is based on existing information only. Some of the information is very specific while other data or information are very general. It is incomplete, and probably lacks some existing material.

In the Wanganui Conservancy, the CRI First Order Survey was a team effort which involved both field and specialist conservancy staff. The information was collated at the Conservancy office on maps and site record forms.

Large gaps in information can be identified in several areas, the most obvious being technical information on the intertidal and subtidal area out to the 12 nautical mile limit and the values of the coast to the Maori people. Very little information was available on invertebrates and reptiles.

Justification for the Conservation Value Overlay

The Wanganui Conservancy has a coastline which is approximately 315 km in length. One hundred and three specific sites have been identified and these cover 265km (84%) of the coast. Site record forms are not an exhaustive database of all the conservation values present. Some sites were chosen for one small special feature and our future task will be to investigate such sites for other details.

Of the total length of coastline in the Wanganui Conservancy, 85km (32%) have values or species of international importance. Sites of national importance cover 138km (52%), while sites of regional importance cover 18km (6.7%). Locally important sites and sites of unknown importance each cover 25km (9.4%) of coast.

Because some of the sites are inland (eg coastal lakes) the above data incorporated an element of double measurement of coast.

Approximately 16% of the Conservancy's coastline lacks any information.

Botanically, only about 12% of the coast is unknown. Of the coast that is known botanically, 78% has been field checked and 64% of the information was obtained from reference material. However, some of this data is out of date and needs re-survey.

Most of the wildlife values were obtained from the Sites of Special Wildlife Interest (NZ Wildlife Service Data Base). This data base covers estuaries and lakes, but stretches of coastline are generally not covered. About 55% of the coast is unknown with regard to wildlife values. Approximately 31% of the coast had reference material relating to wildlife values and just under half the coast has been field checked for wildlife values.

Of the historical information 78% is from reference material and only 15% of the coast was field checked for historic sites. Thirty two percent of the coast is unknown for historical information.

Of the cultural information, 63% of the coast is unknown, only 13% of the coast was field checked for cultural values and only 17% of the cultural values had any reference material.

Geologically 55% of the coast is covered in the Geopreservation Inventory and other geological sources; little has been field checked.

Little information is available on the marine ecology.

CONSERVATION VALUE SUMMARY

Coastal Unit 1

Wanganui River to the Manawatu River.

Description

This area can be broadly described as consisting of a long stretch (65km) of continuous sandy beaches with gentle slopes, backed by extensive dune systems and divided by a repeated sequence of rivers.

The sediments in this area are clean, well-sorted, medium to fine grained sands. Near the mouths of rivers and larger streams concentrations of coarser debris occur. Southeasterly littoral drift along the coast is demonstrated in the numerous small streams whose mouths are deflected to the south by spits.

This area is a high energy shore, with wave heights commonly exceeding three metres. The maximum tidal range is 2.4m and beach width between spring tides can reach 150m. This area is influenced by the warm, saline water of the D'Urville current.

Natural Values

This area of coast can be generally described as a long stretch of sandy beach backed by dunes and broken only by rivers entering the sea. Five major rivers form estuaries within this coastal unit. These are the Wanganui, Rangitikei and Manawatu and the somewhat smaller Turakina and Whangaehu Rivers.

These estuaries are used by birds as feeding and roosting areas. The Manawatu estuary is nationally important (Ornithological Society of New Zealand records) because of the high diversity of bird species present. The estuary also has vegetation which is representative of a pre-European condition (Ravine, 1989).

The dune systems which extend well inland are used for agriculture and exotic forestry. Intact areas of indigenous scrub can be found in places. At the toe of the foredune indigenous sand binders are often present including many patches of pingao (*Desmoschoenus spiralis*).

Dune lakes are found throughout this dune system and although they are often surrounded by farmland, these lakes have a distinctive character. The lakes are unstable in their shape and form due to the mobile nature of the dunes. They vary in their degree of naturalness, and the degree of use by avifauna.

The Harakeke dunes north of the Whangaehu River are significant botanically as they contain endangered, vulnerable and indeterminate plant species. An endangered (Given, 1990) species of note which is present here is the herb *Sebaea ovata*.

No offshore reefs are known. Cockles and surf clams have been identified as a harvestable resource in the surf zone by the MAFFish, but specific distribution patterns still need to be determined.

Pukepuke Lagoon is an 80ha wetland complex which is very important for avifauna and is also of high educational value. This lagoon is a wildlife management reserve administered by the Department of Conservation.

Landguard Bluff on the Wanganui River is significant geologically as an important Pleistocene fossiliferous sedimentary sequence (Geopreservation Inventory).

Historic and Cultural Values

Middens and hangi sites are scattered throughout the dunes and have been identified through survey. Eeling is a traditional use at Pukepuke Lagoon and in the Wanganui River. Cackle and surf clam gathering was also a traditional use as illustrated by the middens uncovered. Present day use of this resource has yet to be determined.

There are several pa on the Wanganui River and a historic shipwreck (the "Fusilier") is in dunes in Santoff Forest.

Human Use and Modification

The Wanganui River mouth has been highly modified by reclamations, a marina and several jetties and slipways. A commercial port occupies the lower portion of the river. Many outfalls discharge untreated stormwater and wastewater into the river. Treatment options for the city's sewage are being considered at present. The Wanganui River and its surrounding dunes and coastline are used for both shore and water-based recreation.

Along this whole strip of coast to the Manawatu River, shorebased recreation in the form of walking and offroad vehicles is very common. Waterbased recreation is centred around the major access points and is generally associated with the large river mouths.

Pukepuke Lagoon is important with regard to traditional fishing, education and shorebased recreation.

The dunes are subject to various degrees of land development. Extensive pine forests exist just south of the Wanganui River and extend to the Rangitikei River. The rest of the dune country is mainly used for farming. Generally only the foredunes are relatively unmodified, although in some places, for example both sides of the Whangaehu River mouth, there are more extensive and little modified areas of dunes.

Protection

Much of this area is zoned as protective in the District Schemes because of the sensitive nature of the sand dunes and their vulnerability to wind erosion and inappropriate land use. Nevertheless, grazing animals, especially cattle, have access right to the shore along most of the coast.

A large area south of the Rangitikei River mouth (Tangimoana) has been proposed as a Regional Park but no further development has been made on this proposal. Part of Lake Koputara has a private protective status (QEII Trust), and Pukepuke Lagoon and Lake Koitiata are Wildlife Management Reserves.

The Wanganui River and adjacent coast have esplanade strips in places, which give formal protection to the coast and/or river banks.

Threats

The major threat to the Wanganui River is water pollution caused by the many stormwater and waste water outfalls which discharge into the river. Treatment options are presently being investigated by a Wanganui River Sewerage Working Party.

The sand dunes which run along the whole stretch of coast are prone to wind erosion and the associated dune blow-outs are accentuated by inappropriate agricultural practices and recreational uses. The erosion of dunes and the encroachment of sand on farmland have been a problem in many locations along this coast. Dune stabilisation works have been attempted in isolated spots. The dune country is also prone to invasion by exotic weeds which crowd out the indigenous plant communities.

Koitiata at the Turakina River mouth is threatened by flooding, while the continued dumping of rubbish in the Tangimoana dunes is also a threat to the natural value of the area (eg pingao). The future of all dune lakes is threatened by existing land uses (farming and forestry).

Coastal Unit 2 Opunake to Castlecliff

Description

The coast between Opunake and the Wanganui River extends over 115km and consists of sandy beaches backed by indented siltstone, sandstone and lahar cliffs up to 50m high. This is a high energy shore exposed to the west and southwest, with a retreating cliff face of 40-85 cm/year in most places (Gibb, 1978). Andesitic boulders occur on the shore, especially at the toes of promontories in the western parts; small reefs and outcrops of mudstone, sandstone and limestone are scattered on the predominantly sandy shores of the east. In some areas the cliffs are broken by a build-up of low dunes such as at Nukumaru Beach.

The hydrology is influenced by the easterly flowing D'Urville current of warm saline water. Maximum tidal range for this area is 2.3m.

Natural Values

The area has high coastal cliffs with occasional examples of indigenous vegetation on the cliff faces. There is generally farming to the top of the cliffs, but in several places small areas of coastal herbfields form dense mats on the cliff tops. Such herbfields contain several nationally threatened (Given, 1990) plant species, including Crassula manaia, C. peduncularis, Ranunculus recens, and Leptinella (=Cotula) dispersa subsp. rupestris. Patches of pingao (Desmoschoenus spiralis) occur in places where dunes have formed in front of the cliffs. Salt marshes have formed in the Patea and Waitotara Rivers.

This area is also of great interest geologically as the cliffs are excellent examples of fossiliferous mudstone, shell beds and consolidated sands overlain with tephra. The Tertiary marine plain is typical of the South Taranaki uplifted marine terraces and is rated as internationally important (Geopreservation Inventory). This whole area is very young geologically.

Few reefs exist onshore, the largest being east of the Waitotara River mouth. Of the many reefs that probably exist offshore, the North and South Trap have been identified as being of particular interest to divers because of the abundant marine life and tall underwater pinnacles.

The Waitotara River is of particular interest both scientifically and naturally. It has abundant bird life and diverse native plant communities in well-preserved swamps, permanent and ephemeral dune lakes, and estuarine habitats. Ventifact beds have been identified in the Nukumaru Domain and these rocks are of scientific interest.

Historic and Cultural Values

This area of coast has several sites of known historic value. The most significant is Waitore Swamp which has yielded many well-preserved Maori artefacts (Cassels, 1979). These artefacts have been identified as the oldest dated assemblage in New Zealand and are of national importance (Davidson 1984: Cassels 1979).

Many places are of cultural importance, and range from middens and hangi sites to areas of spiritual significance. A few redoubts and pa have been identified by the major rivers and on strategic headlands. The coast in this area has been a temporary occupation site for many inland Iwi. The few coastal reefs on this piece of coast have significance to the Maori people for traditional and recreational uses.

Human Use and Modification

Human modification (between the mean high water mark and the cliff tops) on this stretch of coast is very localised. Beach settlements have associated with them jetties, bridges, and other structures (eg Kai Iwi and Patea). Most human use of this area is shore and water-based recreation, for example fishing, diving and boating. Reefs that were relatively inaccessible because of high cliffs have generally been made assessable by rope ladders and other such devices.

Protection

The exposed nature of this coast and generally soft parent materials make it prone to erosion. Thus protective zoning under the District Schemes covers most of the coastline. In addition Section 58 strips form an extensive, but broken coverage over almost 50% of this coastal unit.

Threats

Threats to the conservation values on this coast include an ironsands prospecting licence which covers a large stretch of coast from Mowhanau to just north of Patea. Offshore, several applications have been received from Trans Canadian Pipelines Limited to prospect for petroleum.

Exotic plants threaten the sensitive indigenous cliff top communities and those on the cliff faces. Wild and farmed animals also threaten sensitive plant communities, wildlife habitat, the ventifact beds and the stability of the sand dunes.

Erosion is a natural threat and any development or use must recognise this. Some of the small streams, especially those near dairy sheds, may be polluted with waste although this needs more investigation.

Coastal Unit 3 Motunui to Opunake (Cape Egmont).

Description

The fertile ring plain surrounding Mount Taranaki/Egmont has been settled for approximately 800 years. Early Maori tribes had clearly delineated tribal boundaries and well-established social structures. The greatest concentration of people was in the Waitara region, home of Te Atiawa. Ngati Te Whiti resided in the New Plymouth area and the Taranaki iwi in the south towards Opunake. Their lifestyle was centred around agriculture, and gathering seafood, birds and fernroot.

Early maps show that forest was absent from the coastal strip before the start of European settlement of the ring plains in about 1840. Scrub, fern and grassland appear to have been the main cover. Through a policy of confiscation and land grants, particularly following the Land Wars of the 1860's, Europeans gradually farmed the area. Clearance of coastal vegetation and the drainage of wetlands had led to the present pattern of closely settled dairy farms. Recently, horticultural developments are beginning to feature more prominently.

Several areas of intensive land development are included in this coastal section, not the least of which is the city of New Plymouth and its port - Port Taranaki. This Port is the country's only deepwater west coast port, and a vital link in the region's transport network and petrochemical industries.

The townships of Waitara, Opunake, and Bell Block, all have considerable impact on the adjacent coasts. Physical modifications include sea walls, outfalls and buildings with the associated human pressure also altering the character of each area.

This coast between the Opunake and Motunui extends over approximately 90km.

Natural Values

All coastal forest stands have gone from this area, and natural vegetation is limited to small patches of coastal scrub, herbfields and on dunes. Several rare plant colonies exist, though none are extensive. Cook's scurvy grass (Lepidium oleraceum) still survives on the Sugar Loaf Islands, and several nationally significant herb fields are dotted around the Cape. Native spurge (Euphorbia glauca) is in several sites. Where sand dunes have formed, pingao (Desmoschoenus spiralis) is often present.

The few remaining wetlands in this area are generally modified, although the Waitara estuary, Waipu Lagoons, and Waiwhakaiho, Waiōngana and Pungaerere River estuaries provide valuable wildlife habitat for wading birds such as pied stilt (Himantopus himantopus leucocephalus), variable oystercatcher (Haemotopus unicolor), banded dotterel (Charadrius bicinctus bicinctus), eastern bartailed godwit (Limosa lapponica baueri), knot (Calidris canutus canutus), royal spoonbill (Platalea leucorodia regia), and Australasian bittern (Botaurus stellaris poicilophilus).

The offshore islands and coastal cliffs provide nesting habitat for a multitude of seabirds, including sooty (Puffinus griseus) and fleshy-footed (Puffinus carneipes hullianus) shearwaters, southern diving petrels (Peleconoides urinatrix chathamensis), white-faced storm petrels (Pelagodroma marina maoriana) and are the southern-most breeding limit of the grey-faced petrel (Pterodroma macroptera gouldi). Little blue penguin (Eudyptula spp) nests are scattered along most of the coast.

New Zealand's northern-most breeding colony of New Zealand fur seals (Arctocephalus forsteri) is located on the Sugar Loaf Islands, and numbers swell to around 200 in winter. There are regular haul-out sites along the entire coast.

Most records of gold-striped geckos (Hoplodactylus chrysosireticus) are from the coastal strip. Marine life has been surveyed in some detail at the Sugar Loaf Islands and the Waitara embayment revealing a rich variety of species.

Several coastal features are of national geological interest (Geopreservation Inventory). Airedale Reef, on the north side of the Waitara River, is a relatively large tidal reef, while the Sugar Loaf Islands and Paritutu are a feature of the city skyline and are the Region's oldest volcanic rocks. Further south at Oaonui, the sand dunes are also rated as being of national interest.

Cultural and Historic

Traditionally the coast has been and still is, of great importance to Taranaki Maori. In pre-European times the coast was used for transport as well as a source of food. Invaders generally came by sea and therefore most battlegrounds are also along the coast. As a result the majority of historic sites are close to the coast. Many pa and urupa have already been identified, though without doubt many more exist. Evidence of fishing settlements and camps is also widespread, with original canoe races often enlarged to accommodate the more modern 'tauranga whaka'.

Another historic feature of the Taranaki coast is the presence of petroglyphs (Maori rock art). These receive little publicity and their exact locations have not been revealed, to prevent vandalism.

There are also historic sites of European origin including graves, redoubt sites and shipwrecks. Several shipwrecks are easily accessible and frequented by snorkellers (for example the "Lord Worsley", "Tasmanian Maid", "Rangatira") and reef walkers (for example the "Gairloch" and the "Airedale"). Still more are available for scuba divers to view, but the turbulent nature of the west coast seas has broken-up and dispersed most wrecks.

Large stretches of the coast in this area have little sign of activity. Beaches close to New Plymouth are immensely popular for active and passive recreation. Sites of high aesthetic value have been identified as large expanses of coast where access is good, and no signs of interference by man intrude. However, rubbish (especially plastics), exotic plants and animals, and vehicle tracks are still present in most areas.

Human Modification and Use

Land is generally fully developed on the cliff tops for farming and this often extends to within a few metres of the high tide mark or even occasionally on to the shore. Dairying predominates in rural areas, with a belt of horticulture and small farm holdings surrounding the urban areas. One paua farm is currently operating, with several more in the planning stages.

Port Taranaki and the New Plymouth power station have extensively altered the shape of the coast affecting the littoral sand movement up the coast and depleting the city beaches of their sand supply. Erosion control is a considerable expense to the local council, and existing seawalls are old and require frequent maintenance. The proximity of buildings behind these walls commits the council to erosion control. Thoughtless quarrying of foreshore rocks and gravel in the 1950's has no doubt sped up erosion of the cliffs behind each site, with rocks quarried from riverbeds replacing those previously removed for roading. The pressure of the larger communities such as Waitara, Opunake and New Plymouth is also reflected in the problem of waste disposal, with storm water, factory wastes, sewerage and freezing works effluent being discharged out to sea.

A small inshore commercial fishing fleet operates from Port Taranaki, including trawl, gill net, longline and craypotting boats. Two small commercial boats operate from Opunake, and one from Waitara. The port also services offshore and foreign fishing fleets (for example squid, trawl and purse seine).

Amateur fishers also operate from this port, with an all weather four lane boat ramp inside the port. Boats are used for bottom fishing, diving and big game fishing. Yachting, water skiing and power boat racing make use of the harbour as a base. The Waitara estuary is a smaller base for the same range of activities. This estuary is used extensively by all manner of users, some of whom end up in conflict with others (for example, water skiers/rowing, jet boats/whitebaiters). Even though the water quality of the estuary is poor, it is used intensively.

In season, virtually every creek and stream is fished by whitebaiters and surfcasters; eel fishing is also undertaken widely. Kaimoana is gathered along the entire coast. Despite Health Department warnings, some people persist in gathering seafood from the polluted Waitara reefs. The reefs near the city tend to be depleted and over-fished.

Surfing and windsurfing locations are also scattered around the entire coast, with the "Kumara Patch" (near the Stony River) being an internationally renowned destination. Taranaki is shaped in such a way that on all but a completely calm day, the waves are good for surfing somewhere within an hour's drive. Passive use and camping are also popular activities, with most of this coast easily accessible. Isolated roadends at Cape Egmont are being used as illegal rubbish dumps.

Overfishing of inshore reefs, especially for shellfish, is a problem. On rare occasions fishing restrictions in the Marine Park are ignored and rough seas tend to regulate the inshore fishery. Aquaculture is developing in the area, but the nature of the coast restricts current techniques to on-shore tank farming.

Many small scale threats exist on this coast and these include bulldozing tracks and boat ramps, grazing of sand dunes, removal of rock, weeds and vehicle damage to coastal herbfields.

Existing Protection

The District Schemes covering the old North Taranaki and New Plymouth areas have coastal protection zones, in recognition of the erosion problem. New Plymouth city also has a recreation reserve strip policy, providing good public access to much of the city foreshore, and a series of walkways is being established. These reserves and walkways focus on public recreation rather than other conservation values.

An assortment of other types of protection are scattered along the immediate foreshore these include recreation and esplanade reserves, Section 58 strips, historic sites, Tataraimaka Historic Reserve, Maitahi Scientific Reserve, and the Sugar Loaf Islands Marine Park. A trawler ban exists offshore from Waitara to Tongaporutu.

Recommended areas for protection (RAPs) resulting from PNA survey are, as yet, not implemented at Waitara, Bell Block, Stent Road and Puketapu. Normanby and Sutherland road ends have been recommended for scientific reserve status. A marine protected area/reserve proposal is being investigated for the Cape Egmont area. Existing legislation protecting the Sugarloaf Islands Marine Park does not protect the seabed and habitats therefore greater protection is still desirable.

Threats

Water quality would be one of the most important issues in the region and affects the entire province. Major rivers, such as the Waitara, drain large agricultural basins, and the effluent and chemical runoff (including spraying, topdressing) pollutes the river. The problem is often compounded by water abstraction for town supply, factory use and petrochemical plant processes. In mid-summer this can have a severe effect on freshwater life, especially when combined with increased water temperatures. Other discharges and leachates compound the loss of water quality to these streams which then flow out to sea, generally polluting adjacent reefs. Septic tanks pollute ground-water at beach resorts such as Oakura. The potential for a major oil spill exists, with oil exploration and production taking place off the coast.

Port Taranaki itself poses several threats. The main breakwater deflects sand travelling in the littoral drift system up the coast into the port, or off into deep water, where it is lost to the system, and therefore the city beaches. The disposal of the harbour dredgings is also a contentious issue, as the fine silt may smother reef life. Ships visiting the port, frequently from overseas, discharge their ballast water, which has already introduced foreign species into the marine environment. Long term plans for the port may include reclaiming Ngamotu Beach, one of the city's most popular and sheltered beaches. Any further reclamation in or around the harbour will need to be carefully balanced against environmental and social factors.

Future additions to the land-based petrochemical industry and the associated storage facilities should consider the aesthetics of the coast and be more appropriately landscaped. The "Tank farm" is not aesthetically pleasing especially from offshore, or further down the coast.

Coastal erosion which is a natural process is occurring over most of the coast and various areas have been studied in some detail. Erosion becomes a problem where it threatens private property or developed land. Some of the attempts to halt it probably pose more threat than the initial erosion, and can severely restrict public access to the coast. Sea level rise would probably increase coastal erosion rates, with low-lying, flood-prone areas, such as Waitara township, requiring additional protection/evaluation.

Other threats include the spread of weeds along the coastal strip and predation of the mainland petrel colonies by cats and mustelids.

Coastal Unit 4

Mokau River to Motunui (North Taranaki Coastal Cliffs).

Description

This is a rugged section of coastline about 45km in length. It is characterised by narrow sandy beaches below sandstone and siltstone cliffs, with a rocky foreshore covering approximately 5km in the south-west. Where rivers meet the coastline, a small number of sheltered beaches and estuaries occur, which offer a more diverse habitat. Small settlements occur in these areas. Occasionally more resistant geological formation stand out as cut platforms or reefs off headlands such as Puriohariwa Point. At Whitecliffs, the cliffs reach 200m in height and are slowly eroding.

Natural Values

Intact coastal forest, some right to the cliff tops, remains at Whitecliffs, Tongaporutu and Mokau. These forests and other remnants of native vegetation, contain rare and endangered plant species including Hebe speciosa, Euphorbia glauca, Pomaderris apetala, and several at the southern limits of distribution (for example Dracophyllum latifolium, Myosotis petiolata var. pansa, Lycopodium deuterodensum, Litsea calicularis).

The Mokau, Mohakatino, Tongaporutu and Mimi River estuaries are good examples of natural mudflat and tidal wetland communities that are otherwise rare in North Taranaki. They also support diverse wildlife populations (such as, spotless crake (Porzana tabuensis plumbea), North Island fernbird (Bowdleria punctata vealeae) and Australasian bittern (Botaurus stellaris poiciloptilus). Little blue penguin (Eudyptula spp) also inhabit the area.

Dune adjacent to Mohakatino and Mimi provide nesting areas for the Caspian tern (Hydroprogne caspia) and fluttering shearwater (Puffinus gavia gavia), and grey-faced petrel (Pterodroma macroptera gouldi) nest on offshore stacks and cliff tops, with other more common seabirds.

The river estuaries offer whitebait spawning habitat, and major snapper (Chrysophrys auratus) and trevally (Caranx georgianus) spawning grounds occur offshore. A varied offshore mollusc fauna is obvious from the shells on the beach and these include scallops (Chlamys spp), cockles (Chione stutchburyi), tuatua (Paphies subtriangulatum spp), pipi (Paphies australe), green-lipped mussel (Perna canaliculus) and the bivalve (Dosinia anus). Hector's dolphin (Cephalorhynchus hectori) are occasionally sited offshore.

This stretch of coast contains many striking geological features from internationally significant (Geopreservation Inventory) fossil deposits at Waiiti to spectacular sandstone caves, pillars, tunnels, and whitecliffs (Geopreservation Inventory).

Cultural and Historic Values

Many archaeological sites of Maori origin have been identified in this area and these include occupation and battle sites which reflect the rich food resources of the sea, and strategic positions offered by the cliff tops. The undulating coastal plateaux were intensively cultivated by early Maori for kumura and taro, and the swamps were an important source of flax (Phormium tenax) and raupo (Typha orientalis).

At least 92 historic sites have been recorded by the Historic Places Trust along this coastal fringe and no doubt many more exist. A number of urupa are known, and other previously unknown graves and midden are sometimes exposed by coastal erosion. Important sites include pre-European rock art at Mokau and Tongaporutu, and battle sites at Te Kawau and Pukearuhe; and Maori/European conflicts at Pukearuhe. The wreck of the 'Alexandria' is well known and occasionally exposed here as well.

The area has notable landscape and aesthetic impact, (M Nicholls pers. comm.) much of which can be appreciated from State Highway 3.

The Ruapekapeka marae at Urenui is a base for iwi activities in this area.

Human Use and Modification

The coastal lands in this area are almost fully developed for farming. Dairying, with some horticulture is the major land use south of Whitecliffs. To the north there are small pockets of forestry, but sheep and beef farming predominate.

Considerable use is made of the coastline for water and shore-based recreation. Recreation is concentrated sites are around the access points of road ends and river mouths and the main recreational sites are Mokau, Tongaporutu, Waiiti Beach, Urenui Beach and the Onaero River mouth. Other access points receive minor recreational use.

The main recreational activities include camping, swimming, fishing (including boating and whitebaiting), shellfish gathering and other informal activities such as horse and motorcycle riding. Shellfish gathering is a particularly important activity for the Maori people.

Energy development has modified the coastline. Two natural gas pipelines follow the coast northwards, and the Synthetic Petrol Plant at Motunui is situated adjacent to the coast.

Small settlements occur at most of the major river mouths, and these generally include holiday homes, camping grounds and sports facilities. Concrete boat ramps exist at Mokau, Tongaporutu and Urenui. Sea access is limited, however, to 2-3 hours either side of high tide because of river bars. Small commercial fishing boats operate from Urenui and Pukearuhe, with larger vessels coming into the area from New Plymouth and Raglan. Fishing techniques range from longlines and craypotting to gill netting and pair trawling.

Existing protection

Coastal protection zones in the District Scheme offer a degree of protection to the immediate foreshore. A wide variety of other legislative protection also exists throughout the area, in the form of scenic, historic, recreation and esplanade reserves and Section 58 strips. A trawler ban exists offshore from Waitara to Tongaporutu.

Threats

Varying rates of erosion occur over this area and this has generally been well studied and documented (Taranaki Regional Council). Rates vary between 0 and 2.89 metres per annum. Dune sands and alluvium at river mouths tend to be susceptible to erosion. Erosion tends to take the form of gulying, slumping and spot slumping. Sea level rise will have unknown effects on erosion rates, but it will certainly pose a severe problem for settlements at river mouths, which are already low-lying and prone to flooding. Clearing of forests in the steep catchment areas has caused an increase in siltation and other losses of water quality. Agricultural run-off further reduces water quality and septic tanks in low-lying recreational areas need to be carefully monitored.

Coal mining and associated power production is a potential long term threat to the values of the Mokau valley. Native forest logging is still occurring on a small scale on private land.

Introduced plants, such as willows (*Salix* spp) and other weeds are present. Grazing cattle are damaging fish spawning habitat in all the major rivers. The browsing of introduced animals is reducing forest values and predation on seabird nesting sites is also a threat.

Overfishing occurs on inshore reefs particularly Epiha Reef while gill nets are a very real hazard to the few Hector's dolphin which are present around the Mokau area.

SITES RECOGNISED BY FIRST ORDER CRI

A. SITES OF INTERNATIONAL IMPORTANCE

1. Foxtangi Dunes CRI 07 0005

This site is of international importance due to the presence of an endangered (Given, 1990) plant species (Eleocharis neozelandica) (Ravine, 1989).

2. Tangimoana Dump Dunes CRI 07 0011

The presence of the sedge Eleocharis neozelandica which is endangered (Given, 1990) makes this area internationally important (Ravine, 1989).

3. Harakeke Dunes CRI 07 0025

This dune system is internationally important for the endangered (Given, 1990) herb Sebaea ovata (Ogle, 1990). Also present is the vulnerable (Given, 1990) herb Mazus pumilio and the indeterminate (Given, 1990) herbs Libertia peregrinans and Pimelea arenaria (C Ogle, 1990). The area also provides good habitat for the regionally threatened (Bell, 1986) North Island fernbird (Bowdleria punctata vealeae) (C Ogle, pers. comm.). The area is large and few such dune complexes still exist (C Ogle pers. comm.).

4. Castlecliff - Mowhanau Coast CRI 07 0034

This area is part of New Zealand's most complete sequence of uplifted marine terraces and is internationally important (Geopreservation Inventory).

Of national importance is the rare (Given, 1990) plant Leptinella (=Cotula) dispersa subsp rupestris which is also present here (Lloyd, 1972).

5. Saltmarsh - Kai Iwi Stream CRI 07 0035

This area is part of the internationally important sequence of uplifted marine terraces that extend along this coast. Botanically, the area is regionally important for the representative plant species present (Ogle pers. comm.).

6. Kai Iwi Stream Cliff CRI 07 0036

This area is internationally important geologically as it represents part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). It is regionally important botanically due to the small remnant of coastal forest - little of this habitat type remains in this Conservancy (C Ogle pers. comm.).

7. Kai Iwi Stream - Nukumarū CRI 07 0037

Geologically this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). It is also nationally important geologically as a Pliocene to Pleistocene fossiliferous sedimentary sequence (Geopreservation Inventory). Botanically this area is nationally important due to the presence of the threatened (Given, 1990) herb, Leptinella dispersa subsp rupestris (C Ogle, pers. comm.).
8. Waitotara/Waiinu (Nukumarū Domain) CRI 07 0039

This area is internationally important geologically as it is part of New Zealand's most complete sequence of uplifted marine terraces. It is also nationally important for Pliocene - Pleistocene fossils (Geopreservation Inventory).
9. Nukumarū Domain CRI 07 0041

This area is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory). Botanically, it has a dense concentration of pingao (Desmoschoenus spiralis) (Department of Lands and Survey 1986) which is locally important (Given, 1990).
10. Waitotara River Swamp CRI 07 0042

This area is part of New Zealand's most complete sequence of uplifted marine terraces which are internationally important (Geopreservation Inventory). This site is regionally important botanically (C Ogle, pers. comm.).
11. Waitotara River Estuary CRI 07 0043

This estuary is part of the internationally important uplifted marine terraces (Geopreservation Inventory). In addition, the estuary is used by nationally threatened (Bell, 1986) species - the royal spoonbill (Platalea leucorodia regia) and banded dotterel (Charadrius bicinctus bicinctus) (C Ogle, pers. comm.).
12. Hawkens Lagoon and Dunes CRI 07 0044

Geologically this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). The area also supports two endangered (Given 1990) plant species Sebaea ovata and Eleocharis neozelandica (Ogle, 1989). The Australasian bittern (Botaurus stellaris poiciloptilus) a threatened bird species (Bell, 1986) is also present (C Ogle, pers. comm.).
13. Waitotara Beach CRI 07 0045

This area is part of the internationally important sequence of uplifted marine terraces (Geopreservation Inventory). The importance of the archaeological sites in this area is unknown.

14. Waverley Beach Campground/Cliff Tops CRI 07 0046
This area is part of the internationally important sequence of uplifted marine terraces (Geopreservation Inventory). Botanically this area is nationally important as it represents the southern limit of the rare (Given, 1990) species Crassula manaia (C Ogle, pers. comm.).
15. Waverley Beach CRI 07 0047
Geologically this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). A nationally rare (Given, 1990) plant Leptinella dispersa subsp rupestris is also present in this area (Lloyd, 1972).
16. Wairoa Stream Mouth CRI 07 0048
This area is internationally important geologically as it represents part of New Zealand's most complete sequence of uplifted marine terraces. Fossil bivalves and gastropods are also present (Geopreservation Inventory).
17. Waipipi CRI 07 0049
Geologically this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory).
18. Unnamed CRI 07 0051
This area is known for its archaeological sites, however it is also part of a sequence of uplifted marine terraces that are internationally important (Geopreservation Inventory).
19. Whenuakura River Mouth CRI 07 0052
Geologically, this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). Royal spoonbill (Platalea leucorodia regia) which is nationally threatened (Bell, 1986) has also been noted here (M Cook, pers. comm.).
20. Patea River CRI 07 0053
Geologically, this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). Botanically, the unbroken vegetation sequences from estuary to cliff-face are of regional importance (C Ogle, pers. comm.).
21. Patea River Mouth CRI 07 0055
This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory). The importance of this site botanically is unknown, though pingao is present.

22. Kakaramea Beach CRI 07 0056
Geologically this site is part of the internationally important sequence of uplifted marine terraces (Geopreservation Inventory). Botanically, this area is nationally important due to the presence of the rare (Given, 1990) herb Leptinella dispersa subsp rupestris (Ogle, 1989).
23. Manawapou River Mouth CRI 07 0057
This area is internationally important geologically as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory). Botanically, this area is nationally important due to the presence of the rare (Given, 1990) plant Leptinella dispersa subsp rupestris (Lloyd 1972).
24. Manawapou CRI 07 0058
This area is internationally important geologically as it is part of New Zealand's most complete sequence of uplifted marine terraces (Geopreservation Inventory).
25. Waihi Beach CRI 07 0061
Geologically this area is internationally important as it is part of New Zealand's most complete sequence of uplifted marine terraces. The cliffs in this area also contain fossil bivalves and gastropods (Geopreservation Inventory).
26. Waihi Beach (Denby Road end) CRI 07 0062
This site is part of an internationally important sequence of uplifted marine terraces and contains fossil bivalves and gastropods (Geopreservation Inventory). Botanically, this area is nationally important as Lloyd (1972) reported the presence of the rare (Given, 1990) plant Leptinella dispersa subsp rupestris in this area.
27. Okahu - Oaonui CRI 07 0073
This area is internationally renowned for surfing and windsurfing (T Smithers pers. comm.). Rare and threatened (Bell, 1986) migratory waders such as the variable oystercatcher (Haematopus unicolor) and the banded dotterel (Charadrius bicinctus bicinctus) are also present (Ornithological Society of New Zealand). This area is regionally important botanically (Bayfield and Benson, 1986).
28. Tipoka Road CRI 07 0074
This area is internationally important geologically as it is part of an extensive area covered by volcanic debris avalanche deposits characterised by extensive mound field landforms (Geopreservation Inventory). However, the significance of its other values is unknown.

29. Cape Egmont CRI 07 0075

Geologically, this area is internationally important as it is part of an extensive mound field landform (Geopreservation Inventory). The area is nationally important due to the presence of the vulnerable (Given, 1990) plant species Euphorbia glauca (T. Wilson, pers. comm.).

30. Warea River CRI 07 0076

Geologically, this area is internationally important due to the presence of the most extensive, well preserved, geomorphic surface of volcanic debris avalanche deposits in New Zealand (Geopreservation Inventory). This area is nationally important botanically for the rare (Given, 1990) herb Crassula manaia which is found in excellent examples of native turf communities (C Ogle, pers. comm.). The area is also of great importance to the Taranaki Maori.

31. Hangatahua CRI 07 0079

This area, called the 'Kumara Patch', is one of the best surfing spots in Australasia (T Smithers, pers. comm.). Rare and threatened (Bell, 1986) migratory waders such as the least golden plover (Pluvialis fulva) and wrybill (Anarhynchus frontalis) occasionally use the area (Ornithological Society of New Zealand).

32. Waiiti CRI 07 0094

Internationally important shark and whale bone fossils have been found in the cliffs and these are important in piecing together the Earth's history (J. McKee, pers. comm.). Botanically this area is nationally important due to the presence of a vulnerable (Given, 1990) plant Euphorbia glauca (C Ogle, pers. comm.).

B. SITES OF NATIONAL IMPORTANCE

1. Saltmarsh Manawatu Estuary and Manawatu Estuary CRI 07 0001
& CRI 07 0002

This area is nationally important ornithologically as it is the best estuary for wading birds on the west coast of the North Island, south of Kawhia. Large numbers of Arctic migratory waders visit the estuary, some of which are uncommonly seen in New Zealand (Ornithological Society of New Zealand).

2. Lake Koputara CRI 07 0006

This lake is nationally important for the threatened (Bell, 1986) New Zealand dabchick (Podiceps rufopectus) (Department of Conservation, Palmerston North). Brown teal (Anas aucklandica chlorotis) an endangered species were introduced to this lake however it is doubtful that they are still present.

3. Lake Kaikokopu CRI 07 0008

Lake Kaikokopu is nationally important for the presence of the threatened (Bell, 1986) Australasian bittern (Botaurus stellaris poiciloptilus) (Skipworth, 1987).

4. Pukepuke Lagoon CRI 07 0010

Pukepuke Lagoon is a renowned breeding area for bird life. Two threatened (Bell, 1986) bird species are present here - the Australasian bittern (Botaurus stellaris poiciloptilus) and the New Zealand dabchick (Podiceps rufopectus) (WERI). A resident population of the regionally threatened (Bell, 1986) North Island fernbird (Bowdleria punctata vealeae) is also present (C Ogle pers. comm.).

5. Rangitikei River Estuary CRI 07 0012

The Rangitikei River estuary covers approximately 200ha and is regionally important for wading birds (WERI). However, the presence of the threatened (Bell, 1986) banded dotterel (Charadrius bicinctus bicinctus) makes this area of national importance.

6. Waimahora Swamp CRI 07 0015

This swamp is nationally important due to the presence of a vulnerable (Given, 1990) herb Mazus pumilio, and the regionally threatened (Bell, 1986) North Island fernbird (Bowdleria punctata vealeae) (Ravine, 1989). In addition, the vegetation of this area may be unique in the Foxton Ecological District (Ravine 1989).

7. Lake Koitiata CRI 07 0017

This area is nationally important due to the presence of the threatened (Bell, 1986) New Zealand dabchick (Podiceps rufopectus) (SSWI, 1988). Lake Koitiata is regionally important as a breeding area for grey duck (Anas superciliosa superciliosa), paradise duck (Tadorna variegata), black swan (Cygnus atratus) and the New Zealand shoveler (Anas rhyncotis variegata) (SSWI, 1988).

8. Koitiata Recreation Reserve CRI 07 0019
Pingao (Desmoschoenus spiralis) is present in this area (Ravine, 1989). An endangered (Given 1990) herb Sebaea ovata was recorded here in 1967 but it has not been thoroughly searched for since.
9. Turakina River Mouth Spit CRI 07 0020
This area is nationally important due to good spinifex (Spinifex sericeus) and pingao (Desmoschoenus spiralis) associations which dominate over marram.
10. Whangaehu - Turakina Dunes CRI 07 0023
This area is a representative example of a low spinifex (Spinifex sericeus) dominated foredune system. Pingao (Desmoschoenus spiralis) is present in places (Ravine, 1989).
11. Whangaehu River Mouth CRI 07 0024
This estuary has a good range of bird species present including the threatened (Bell, 1986) banded dotterel (Charadrius bicinctus bicinctus) and royal spoonbill (Platalea leucorodia regia) (D Ravine, pers. comm.).
12. Landguard Bluff CRI 07 0029
This site is a nationally important river-cut Pleistocene fossiliferous sedimentary sequence containing bivalve and gastropod fossils (Geopreservation Inventory).
13. Wanganui River Estuary CRI 07 0030
This estuary is nationally important for the threatened (Bell, 1986) royal spoonbill (Platalea leucorodia regia); up to eight were recorded in December 1989 (G Randle, pers. comm.). Fifty two other bird species have been recorded on this estuary (G Randle pers. comm.).
14. Castlecliff Dunes CRI 07 0032
Geologically this area is nationally important (Geopreservation Inventory), but, it is only of local importance botanically despite the presence of sand daphne (Pimelea arenaria) and pingao (Desmoschoenus spiralis), because of the heavy modification by weeds and recreational users (C Ogle, pers. comm.).
15. Lake Marahau CRI 07 0038
This lake supports large numbers of waterfowl and has been classified as nationally important in WERI.

16. Waitore Swamp CRI 07 0054
This swamp is of regional importance as this area is one of the few areas in the Wanganui Region that has produced significant amounts of 'Archaic material' and is of national importance having produced the oldest dated assemblage of wooden artefacts known from New Zealand (Davidson, 1984).
17. Nowells Road Ponds CRI 07 0059
These ponds are important feeding and roosting habitat for waterfowl and wading birds. The endangered (Bell 1986) black stilt (Himantopus novaezealandiae) and the threatened (Bell 1986) Australasian bittern (Botaurus stellaris poeciloptilus) and New Zealand dabchick (Podiceps rufopectus) have been recorded here (M Davis pers. comm.).
18. Kapuni Stream CRI 07 0065
This site is nationally important for pingao (Desmoschoenus spiralis) which is important biologically and culturally.
19. Sutherland/Normanby Road Ends CRI 07 0066
This site is of national importance for the indeterminate (Given, 1990) herbs Ranunculus recens and the vulnerable (Given, 1990) Euphorbia glauca (C Ogle, pers. comm.).
20. Puketapu Road CRI 07 0069
This area is of national importance due to the presence of the rare (Given, 1990) native plant species Crassula manaia and C. peduncularis and the vulnerable (Given, 1990) Euphorbia glauca (C Ogle pers. comm.). This is one of the finest examples of this type of vegetation in the Conservancy (C Ogle, pers. comm.).
21. Taungatara Stream CRI 07 0070
This site is of national importance due to the presence of the native herb Crassula manaia which is a rare (Given, 1990) plant (Druce and Sykes 1988) and for the presence of the threatened (Bell, 1986) NZ dabchick (Podiceps rufopectus) (M Davis pers. comm.).
22. Opunake (Heimama Stream) CRI 07 0071
This area is nationally important geologically for the presence of a complete lahar sequence of Opua formation and older ashes and lahar around Opunake and Middletons Bays (Neall, 1979). The nationally rare (Given, 1990) herb Crassula manaia is also present at Heimama Stream (Druce and Sykes, 1988). The area is also important historically.
23. Arawhata Stream CRI 07 0072
This area is nationally important due to the presence of a nationally rare (Given, 1990) plant species Crassula manaia (Druce and Sykes 1988).

24. Stent Road CRI 07 0077
Botanically, this area is nationally important due to the presence of the rare (Given, 1990) herb Crassula manaia (Druce and Sykes, 1988).
25. Tataraimaka/Maitahi CRI 07 0080
Maitahi Scientific Reserve is of national importance (Clarkson and Boase, 1982). Tataraimaka is of national importance historically and the area is now tapu (Clarkson and Boase 1982).
26. Oakura/Timaru Stream CRI 07 0081
This area is nationally important due to the presence of two threatened (Bell, 1986) bird species the Australasian bittern (Botaurus stellaris poiciloptilus) and the reef heron (Egretta sacra sacra) and the rare (Bell, 1986) gold-stripe gecko (Hoplodactylus chrysosireticus) (R Lambert pers. comm. and K Mathews pers. comm.). The area is rich in historical value and also has recreational values.
27. Tapuae CRI 07 0082
This area is nationally important to the Taranaki Iwi as Whiro's landing site (AD 1270) (P and R Komene pers. comm.).
28. Waireka CRI 07 0083
This site is nationally important due to the presence of the threatened (Bell, 1986) Australasian bittern (Botaurus stellaris poiciloptilus) (Bayfield and Benson, 1986). Lloyds Ponds are considered to be regionally important (WERI). The dune banding on the cliffs may possibly be of national importance (R Lambert pers. comm.).
29. Sugar Loaf Islands/Paritutu CRI 07 0084
The Sugar Loaf Islands are nationally important geologically as they represent the oldest volcanics in Taranaki (Geopreservation Inventory). The Sugar Loaf Islands Marine Park is one of only five protected marine areas in New Zealand.
30. New Plymouth City/Fort CRI 07 0085
The reef heron (Egretta sacra sacra) which is present in this area (T Wilson pers. comm.) is a threatened (Bell, 1986) species, while Port Taranaki is nationally important as it is the only major west coast port.
31. Bell Block/Waiwhakaiho CRI 07 0086
This area is nationally important due to the presence of the threatened (Bell, 1986) Australasian bittern (Botaurus stellaris poiciloptilus) (Bayfield and Benson 1986). The area also has regionally uncommon wetland plant species (Ogle 1989).

31. Waiongana CRI 07 0087

This area is nationally important due to the presence of the rare (Bell, 1986) least golden plover (Pluvialis fulva) and the threatened (Bell, 1986) banded dotterel (Charadrius bicinctus bianctus) (Ornithological Society of New Zealand).

32. Waitara CRI 07 0088

This area is nationally important geologically as the Waitara estuary is recognised as being a salt wedge estuary in a tectonically uplifting zone. Airedale Reef, offshore, is also important geologically as it contains roots and trunks of buried forest (Geopreservation Inventory). The pollution of the Waitara estuary by sewerage and other pollution is of concern to the Waitara Maori (A Taylor pers. comm.) and has been nationally recognised.

33. Motunui CRI 07 0089

Geologically, this area is nationally important as it is part of a 30km stretch of coastal cliffs which represents a holostratotype of the Tongaporutuan Stage and contains fossils (Geopreservation Inventory).

34. Buchanans Bay CRI 07 0090

Geologically, this area is nationally important as it is part of a 30km stretch of coastal cliffs which represents a holostratotype of the Tongaporutuan Stage and contains fossils (Geopreservation Inventory). This area also represents the boundary between debris from the Pouakai volcanic eruption in the south and the uplifted Tertiary mudstones further north (Neill, 1974). The importance of the other values in this area are unknown.

35. Onaero CRI 07 0091

This area is nationally important geologically as it is part of a 30km stretch of coastal cliffs which represent a holostratotype of the Tongaporutuan Stage (Geopreservation Inventory). Fossils are also present in the cliffs. The area also has within it the nationally important Pukemiro Historic Reserve, famous for its large puriri tree (Vitex lucens) (Clarkson and Boase, 1982). The area is rich in Maori history.

36. Urenui CRI 07 0092

This area is nationally important geologically as it is part of a 30km stretch of coastal cliffs which represent a holostratotype of the Tongaporutuan Stage and contains fossils (Geopreservation Inventory). Hector's dolphin (Cephalorhynchus hectori), an endangered species, is occasionally sighted offshore (W Welch and K Shorter pers. comm.). The area is also renowned for the Te Urenui Historic Reserve which was the birth place of Sir Peter Buck (HPT Inventory).

37. Mimi - Urenui CRI 07 0093
Geologically this area is nationally important as it is part of a 30km stretch of coastal cliffs which represents a holostratotype of the Tongaporutuan Stage and contains fossils (Geopreservation Inventory). The nationally threatened (Bell, 1986) Caspian tern (Hydroprogne caspia) and the banded dotterel (Charadrius bicinctus bicinctus) visit the area (R Lambert, pers. comm.). This area is also important in that it supports a mainland petrel colony (T Wilson pers. comm.).
38. Pukearuhe CRI 07 0095
This area is nationally important geologically as it is part of a 30km stretch of coast which exhibits a holostratotype of Tongaporutuan Stage (Geopreservation Inventory). The area is also of interest historically.
39. Whitecliffs CRI 07 0096
Geologically this site is of national importance as it is part of a 30km stretch of coast which exhibits a holostratotype of Tongaporutuan Stage. The Whitecliffs themselves are a prominent and spectacular feature and are a national tourist attraction (Geopreservation Inventory). In addition the area also supports several nationally important plants such as the vulnerable (Given, 1990) Hebe speciosa and the indeterminate (Given, 1990) Myosotis petiolata var. pana. (Druce and Ogle, 1972).
40. Tongaporutu-Waikorora Stream CRI 07 0097
This site is part of a 30km stretch of coast which exhibits a holostratotype of Tongaporutuan Stage. In addition, the spectacular Whitecliffs are a prominent geological feature of this area (Geopreservation Inventory). This area has good vegetation sequences and is rich in Maori history.
41. Offshore Mohakatino/Urenui Bay CRI 07 0098
This area is nationally important as it is one of only two main breeding grounds for snapper (Chrysophrys auratus) and trevally (Cananx georgianus) which are important inshore finfish species (Horn, 1986).
42. Tongaporutu CRI 07 0099
Present in this area are nationally important Maori rock art features and this site is one of eighteen New Zealand rock art locations in the North Island (Trotter and McCulloch, 1971). Pou Tehia Historic Reserve is also very important, and the botanical values of this area are also high (Clarkson and Boase 1982).
43. Mohakatino to Tongaporutu CRI 07 0100
Geologically this area is nationally important as it is part of a 30km stretch of coastal cliffs that exhibit a holostratotype of Tongaporutuan Stage and contain fossils (Geopreservation Inventory). The nationally important Te Kawanui Historic Reserve is also present (Clarkson and Boase, 1982).

44. Mohakatino

CRI 07 0101

The Mohakatino estuary is rated as nationally significant in WERI. The nationally threatened (Bell, 1986) Australasian bittern (Botaurus stellaris poiciloptilus) is also present. Caspian terns (Hydroprogne caspia) which are also threatened (Bell, 1986), have been recorded as nesting on the spit, while the rare (Bell, 1986) variable oystercatcher (Haematopus unicolor) is also present (Ornithological Society). The area is regionally important geologically (Geopreservation Inventory).

45. Mokau River (Inland)

CRI 07 0102

This area is nationally important due to the presence of the threatened (Bell, 1986) Australasian bittern (Botaurus stellaris poiciloptilus) (Bayfield, 1989). North Island fernbirds (Bowdleria punctata vealeae) are also present and this species is regionally threatened (Bell, 1986).

46. Mokau River (coastal)

CRI 07 0103

The rock art at Mokau is considered to be nationally important and is one of 18 rock art locations in the North Island (Trotter and McCulloch 1971).

The nationally endangered marine mammal Hector's dolphin (Cephalorhynchus hectori) is frequently seen offshore (L Hurrell pers. comm). The rare (Bell 1986) variable oystercatcher (Haematopus unicolour) and threatened (Bell 1986) Caspian tern (Hydroprogne caspia) have been recorded breeding on the spit (Ornithological Society of New Zealand). The geology of the area is regionally important (Geopreservation Inventory), and botanically, the area is a good representative example of tidal estuary and coastal vegetation (Bayfield, 1989).

C. SITES OF REGIONAL IMPORTANCE

1. Dune Lakes

CRI 07 0003

Most of this string of sand dune lakes are of local importance however Orouakaitawa Swamp has been noted in WERI as being of regional importance by the Catchment Authority (1983).

2. Koputara Sandflats

CRI 07 0007

This site is one of the best examples of a large sand plain in the Foxton Ecological District (Ravine, 1989).

3. Tangimoana State Forest

CRI 07 0009

North Island Fernbird (Bowdleria punctata vealeae) which is regionally threatened (Bell, 1986) was recorded as being present by the Fauna Survey Unit, NZ Wildlife Service in 1985, but a comprehensive survey is needed to establish whether or not this species is still present.

4. Blind Lakes

CRI 07 0016

This area was considered to be regionally important for a regionally rare grass Lachnagrotis filiformis s.s. (C Ogle, 1990).

5. Turakina Fernbird Population

CRI 07 0021

North Island Fernbirds (Bowdleria punctata vealeae), which are regionally threatened, (Bell, 1986) have been recorded here (SSWI, 1985 : C Ogle pers. comm.).

6. Large Unnamed Wetland

CRI 07 0022

This 100ha swamp on a sand plain immediately behind the foredune has a variety of indigenous plant species (Ravine, 1989). North Island fernbird (Bowdleria punctata vealeae), which are a regionally threatened species (Bell, 1986), have been recorded as present at the northern end of this area (C Ogle, pers. comm.) making this area of regional importance.

7. Kaitoke

CRI 07 0027

This area is regionally important geologically as the mudstone cliffs contain fossil bivalves and gastropods (Geopreservation Inventory).

8. Hind Dune Swamp

CRI 07 0033

Dune wetlands are now quite rare, thus the few degraded remnants left are of regional importance (C Ogle pers. comm.).

9. Ventifacts

CRI 07 0040

This area contains ventifacts, an unusual geological formation which are considered regionally important.

10. Marine Habitat (North and South Trap) CRI 07 0050
This area is an offshore reef system which is regionally important recreationally.
11. Waingongoro River Mouth - Ohawe Beach CRI 07 0064
This site is of regional importance due to the presence of coastal scrub and the notable occurrence of a local form of native angelica (Scandia rosifolia) (C Ogle pers. comm.).
12. Kaupokonui Stream CRI 07 0067
This area has archaeological sites of Maori origin and is considered to be regionally important.
13. Oeo Stream/Cliffs/Rawa Stream CRI 07 0068
This site has a coastal herbfield which is inhabited by the moth Notoreas sp. This moth and its food source Pimelia sp have a patchy distribution and are considered to be regionally important.

D. SITES OF LOCAL IMPORTANCE

1. Coastal Dunes

CRI 07 0004

This site is of local importance as it consists of a series of midden sites in coastal dunes (Bailey and Kozniak, 1985).

2. Rangitikei - Turakina Foredunes

CRI 07 0014

The lack of depth inland of this dune system limits its importance (Ravine, 1989). There is however, a high concentration of pingao (Desmoshoenus spiralis) (Ravine, 1989) which is locally important (Given, 1990).

3. Unnamed

CRI 07 0026

This area is characterised by tall cliffs and is an important breeding area for black backed gulls (Larus dominicanus). The area also has archaeological sites of Maori origin present. This area is considered to be locally important.

4. Wanganui River

CRI 07 0028

This area represents two fishing pa on the banks of the Wanganui River which are locally important.

5. Wanganui River Mouth

CRI 07 0031

This area has a wealth of historic and cultural information and is important locally.

6. Hawera Oxidation Ponds and Cliffs

CRI 07 0060

These ponds support 57 different species of birds and are of local importance (M Davis, pers. comm.).

E. SITES OF UNKNOWN IMPORTANCE

1. Santoft Forest

CRI 07 0013

The area is the site of a midden - its importance is unknown.

2. Tunnel Hill

CRI 07 0018

The importance of this site is unknown, although the indigenous swamp scrubland is quite diverse and it may warrant regional importance.

3. Under Water Reef

CRI 07 0063

This reef system lies offshore from Ohawe Beach and is frequently fished. Its importance is not known.

4. Paora Road

CRI 07 0078

This area has archaeological sites of Maori origin however its importance is unknown.

COASTAL POLICY ISSUES

Due to the diversity of coastal ecosystems within the Wanganui Conservancy the coastal policy issues that apply to each coastal unit will be different. Therefore, the specific issues have been related to four coastal units.

Coastal Unit 1 - Wanganui River - Manawatu River

1. The invasion of weeds into areas of high conservation value. For example, spartina (*Spartina anglica*), sharp rush (*Juncus acutus*), marram (*Ammophila arenaria*), pampas (*Cortaderia selloana*), pasture grasses, gorse (*Ulex europaeus*) and boxthorn (*Lycium ferocissimum*).
2. Inappropriate recreational use of sand dunes - Recreational use, by offroad vehicles including trail bikes destroy the delicate balance between the sand binders and natural sand movement. Recognition needs to be given to the natural dynamic nature of the dune ecosystems.

Farming of dunes may also act to destabilise the structure of the dunes by removing the protective plant cover and thereby accelerating erosion.
3. Drainage of wetlands in the dune hollows. Both farming and forestry have accelerated the dewatering of these areas by lowering the water table. In addition, deliberate drainage has removed water from the swampy hollows.
4. Pollution of dune lakes from farm runoff. Eutrophication of dune lakes has led to the rapid spread of exotic aquatic plants which in turn has reduced the area of open water. Exotic plants respond well to increased fertility levels and therefore tend to displace indigenous species.
5. Flooding in the Turakina River. Local residents wish to create a cut in the spit in an attempt to reduce the flood hazard to coastal development. Modifications of this nature require full environmental assessment.
6. Wanganui City Pollution. Approximately three quarters of Wanganui's sewage is discharged untreated via fifty six city sewer outfalls into the Wanganui River. The remaining quarter of the city's sewage plus all its industrial waste is discharged untreated to the Tasman sea via a pipeline 1.8km off South Beach. The serious pollution caused by these discharges is now widely recognised and is being considered by the local authority and other agencies.
7. Urban development. Urban development pressures along this section of coastline are mainly confined to the rivermouth areas (eg Foxton Beach, Tangimoana, Koitiata Beach). Development has taken place in unstable foredune areas in the past, though further subdivision is now restricted due to coastal zoning controls. Estuarine areas are vulnerable to the impacts of adjacent urban development, eg on wildlife values and water quality. Coastal areas close to Wanganui are also affected by other urban uses, eg Airport, sewage outfall, possible future sewage treatment plant.
8. Browsing by wild animals. Rabbit browsing restricts the growth of young pingao and vegetation cover on sand dunes, contributing to erosion.

Coastal Unit 2 - Opunake to Castlecliff

1. Petroleum exploration - TCPL Resources Ltd has made several applications to this Department to prospect offshore.
2. Ironsand prospecting - An extensive area of coastal land has been gazetted under the Iron and Steel Industries Act for ironsand prospecting and mining. This includes considerable areas of conservation land.
3. Farm pollution of streams - Dairy farming is a significant land use along the section of coast west of Hawera. Discharge of dairy shed effluent into coastal streams is common along this section of coast.
4. Invasion of noxious plants and other weeds - Invasion of introduced plants often displaces the indigenous species.
5. Cattle grazing and pugging of dunes - Livestock grazing removes dune vegetation which in turn removes the only protection from erosion. Cattle pugging of the dune wetlands destroys vegetation, as does trampling on the drier areas, both cause destruction of the vegetation which often accelerates erosion.

Coastal Unit 3 - Motunui to Opunake

1. Water Pollution

Pollution of the coastal environment occurs as a result of rural land use (dairy shed effluent, topdressing and spraying) and urban development (sewage, industrial outfalls). Some of these discharges are made to rivers and may ultimately impact on the coastal environment).

Pollution of the coastal environment around the Waitara River is a particular problem. Dairy factory, petrochemical industry, freezing works and sewage discharges to the sea, as well as contaminants from the river, are detrimentally affecting the coastal environment and recreational values at Waitara.

Pollution in the estuaries of some rivers (eg Waitara, Waiwhakaiho, Wairau) is compounded (especially in summer) by water abstractions affecting dilution of contaminants.

Ocean outfalls and septic tanks which contaminate ground water are also important issues. Examples of this are the Opunake town sewerage and Dairy Company outfall, Oaonui production station, Okato outfall, and Oakura septic tanks.

2. Contingency Planning

Due to the petrochemical industry in Taranaki, contingency planning will require a high priority. Oil spills and blowouts from land-based drilling operations, pipeline rupture, and offshore exploration/production are all possible hazards, and should be planned for. Spills within Port Taranaki also need to be addressed.

Attention should be paid to West Coast storm conditions, transport problems during a civil emergency (an earthquake capable of rupturing pipelines would also probably close many bridges in the region).

3. Energy and Petroleum Development

This issue includes mining, the effects of runoff and the exclusive use of the seabed, for example large areas of seabed are closed to fishing around the Maui pipelines and platform.

4. Land Ownership/Access

Many areas of private land held on old titles extend to the high water line. Access over Landcorp property in this area has yet to be finalised. Public access to the coast needs to be maintained and protected.

Much of the coastal land between New Plymouth and Opunake was confiscated from the original Maori owners. This needs to be recognised, if any form of "partnership" is to exist over land/coastal management.

5. Maori Management of Coastal Resources

Taranaki Maori wish to have a high degree of input into the management of the coast. Due to the impacts of European settlement on Maori ancestral land, the Maori have placed a higher value on their coastal resources.

River pollution ultimately impacts on the coast including the lamprey fishery, other kaimoana and the spiritual values of the water to the Maori people.

6. Port Taranaki

Discharge of ballast water, dredge spoil dumping, future reclamations, recreational use and public access all need to be addressed.

7. Beach Replenishment/Reclamations/Seawalls/Sand By-passing

Sand by-passing although potentially damaging to reef systems, can benefit beach users and return the beaches to its pre-development state. Seawalls are common especially round urban areas (eg. New Plymouth City and Bell Block) and were built to protect property. Future use of this protection mechanism needs to be evaluated. District Schemes in the area have introduced coastal hazard zoning to control developments in erosion-prone areas. These now apply to development at Bell block, Onaero, Urenui and Tongaporutu.

8. Erosion

Erosion along this section of coast is influenced amongst other things by the prevailing weather conditions (very exposed coastline) and the geological substrate which in many places comprises very soft material. The significance of erosion hazard needs to be reflected in the relevant planning schemes.

The clearing of steep, marginal land in the headwaters of the Waitara River catchment has resulted in slipping and erosion into the river causing further problems downstream. Marine life is smothered by silt many kilometers out to sea.

9. Sea Level Rise

The predicted sea level rise may also cause flooding in low-lying areas and in the larger estuaries such as the Waitara River and the Huatoki Stream.

Sea level rise may also result in an increase and change in pattern, of the existing erosion trends.

10. Land Development - Urban and Rural

Land near Oaonui production station, (this includes Kahui Road and Manihi Road) contains valuable wildlife, aesthetic values and rare plants. These areas need to be safeguarded in the district plans.

Horticultural shelter belts and farm buildings on the coastal strip have changed the landscape character of this section of coast.

10. Introduced Plants and Animals

Stock grazing of riverside vegetation, cliff tops and dunes impacts directly on dune stability and whitebait habitat. The invasion of weeds and pasture grasses into native herbfields needs further study. Wild animals and predators also threaten the natural values of the area (for example mustelid predation on mainland petrel colonies). Such impacts need to be addressed in coastal policy.

11. Marginal Strip Vegetation/Fencing

Revegetation of marginal strips along river estuaries and the coast would increase spawning and juvenile habitat for many native fish species, and would also assist in reducing runoff and pollution of water ways.

12. Aquaculture

In Taranaki this is limited to land based tank farming of Paua (Bell Block and Okato). The offshore environment prohibits other methods of marine farming. Problems associated with land based aquafarming include intake and outfall structures, water quality and the spread of disease to adjacent natural reefs, public access along coastal areas and the removal of seaweed for food. Removal of structures should also be anticipated in the event that such farming fails. Tank farming of other species including crayfish and eels is anticipated.

13. Protected Areas

Proposed Marine Protected Areas and the continual evaluation of new areas suitable for protection/management must be recognised. Scientific wildlife, historic reserves, and areas recommended for protection (Protected Natural Areas Programme) should be acknowledged and protected.

Other culturally or historically significant sites, including offshore shipwrecks, battle sites, and petroglyphs should also be protected.

14. Overfishing and Fishing Techniques

Fisheries management and its relation to coastal management should be incorporated in coastal policy, eg amateurs removing shellfish.

15. Recreational Pressure and Outlets

Public access to coastal areas and planning for different types of uses, some of which will be conflicting (for example dogs and horses at a crowded swimming beach) Walkways; provision of beach facilities on the foreshore - such as surf clubs and boatclubs) should be addressed through NZ Coastal Policy.

Coastal Unit 4 - Mokau River to Motunui

1. Erosion

Erosion of the cliff edge and slumping occurs along this coastal unit. Buildings and facilities (including gas pipelines) sited adjacent to the cliffedge may be at risk.

Stock grazing to the cliff edge can accelerate coastal erosion. Housing development along major estuaries including Mokau, Mohakatino, Tongaporutu, Mimi, Urenui and Onaero may in the future be threatened by flooding. Sea level rise would accentuate this threat. Illegal and poorly constructed seawalls are common. Erosion hazard needs to be addressed through district plans to ensure that coastal hazard zones are defined and restrict development is restricted adjacent to rapidly eroding sections of coastline.

Inland erosion accelerated by the clearance of steep inland areas, has a major impact on the coastal environment (for example siltation of estuaries).

2. Water Pollution

One of the main sources of pollution on the North Taranaki coast is agricultural runoff (ie effluent, spraying, topdressing) via the rivers. Future coal mining and logging in inland Taranaki (Mokau and Mohakatino) would accentuate coastal pollution.

Water quality can also be compromised by the damming and extraction of river water. This also affects navigation in the estuary.

3. Energy and Petroleum Development

It is anticipated that further impacts upon the coastal environment will result from future coal mining at Mokau, a coal-fired power station proposal, further petrochemical development at Motunui, and future prospecting and pipeline construction. Policies also need to be formulated for offshore exploration and production, and these need to include protection of water quality, cultural and spiritual values and prevention of damage to the marine environment.

Contingency plans need to take account of physical constraints on this coast, particularly access problems.

4. Land Ownership and Public Access

Due to the physical character of this section of coast, public access is largely confined to estuarine areas. It is, important that the public are able to use these points of access. Public access over Landcorp property at Mohakatino has yet to be finalised, and though there are several places where the public presently have legal access, they are generally unaware of this. In other areas, the addition of pathways over private coastal land (by covenant) would be desirable. The Whitecliffs Walkway is an important public access to the coastline south of Tongaporutu.

Ownership of one area (Mohakatino) is under a claim to the Waitangi Tribunal; this may affect public access to Epiha reef.

5. Maori Management of Coastal Resources

Local Iwi need to be closely involved with the management of their coasts, not merely "consulted". Regard should be had in the coastal policy to the spiritual and cultural requirements of the Maori.

6. Marginal Strip Management/Grazing/Predators

The river margins and estuary of the Mokau, Mohakatino, Tongaporutu, Mimi, and Urenui are often grazed and this destroys the spawning and juvenile habitat of native fish. Runoff from pasture has increased nutrient levels. Stock also cause erosion of the banks. Fencing and replanting of marginal strips along both rivers and coasts should be encouraged. Introduced plants such as willows damage native vegetation. Stock grazing animals along cliff tops accelerates coastal erosion.

7. Land Development - Urban and Rural

In order to maintain the existing character of the coastal environment, future development needs to be carefully monitored and controlled. Local issues include housing at Onaero; shelter belts, petrochemical developments including pipelines, and refuse tips.

8. Protected Areas

Provision should be made for marine protected areas (one is proposed for the Mohakatino area) and rahui areas, and the ability to review other means of protection. Historic and cultural sites need appropriate recognition and protection.

9. Recreational Pressure and Outlets

Coastal access points are limited, and are consequently intensively used eg Urenui. Many of these trips are made by day visitors from the New Plymouth area. Provision for increased public access and facilities including car parking will need to be carefully balanced, against the need to maintain the natural character of the coastal environment.

10. Overfishing and Fishing Techniques

Policies need to be developed, in conjunction with MAFFish plans, to deal with areas presently overfished, such as Epiha Reef.

DIRECTION FOR SECOND ORDER SURVEY

As with the Coastal Policy issues, the direction for second order is site specific based on current gaps in information. Each has been looked at in relation to specific coastal units.

Coastal Unit 1 - Wanganui River to Manawatu River

- More research is required on the spiritual and cultural aspects of this coastal unit.
- Detailed information is required on the biological and physical aspects of the coast out to the 12 nautical mile limit.
- A study of the estuaries within this coastal unit is needed.
- Little information has been recorded on the inhabitants of the sandy shore in this coastal unit. Thus an intertidal survey would be useful.
- More detail needs to be obtained on the historic and archeological values of this coastal unit.
- Gaps in the wildlife and botanical information need to be identified and studies initiated to provide information on these sites.

Coastal Unit 2 - Opunake to Castlecliff

- More investigation is needed on the spiritual/cultural aspects of this coastal unit.
- Detailed information is required on the biological resources and physical attributes of the foreshore and seabed out to the 12 mile limit.
- Detailed survey of native coastal vegetation is still required to identify threatened and representative communities.

Coastal Unit 3 - Motunui to Opunake

- Botanical surveys are needed for some areas.
- More information needs to be obtained on the insect and reptile fauna of the area.
- Areas where wildlife information is inadequate need to be identified and surveys initiated.
- Although marine life from Oaonui to the Maui platform, the Sugar Loaf Islands Marine Park and the Waitara embayment have been well observed and studied, little information is available on other areas. Certainly a survey of some of the inshore reefs and the Cape Egmont area would be advantageous.
- A recreational survey of the water uses in some of the less populated areas needs to be carried out. The Regional Council are undertaking one such survey and other areas could be targeted by Department.

- Additional survey of the historic and cultural values in this area is needed.

Coastal Unit 4 - Mokau River to Motouui

- Detailed survey needs to be undertaken in the area proposed for a Marine Protected area (botanical, marine ecological, estuarine, reptile, cultural and existing public use).
- Estuarine surveys (including marine, plant and birdlife) would be desirable for Mokau, Tongaporutu, and Mimi.
- The Geopreservation Inventory for the entire area needs to be updated.
- Invertebrate and reptile surveys are required for the entire area.
- Buchanan's Bay appears to be of interest, with good coastal scrub cover and extensive reef systems, yet the area is almost unknown. A thorough survey of the botanical, marine and cultural values would be desirable.
- Random marine surveys of tidal and offshore areas should also be conducted throughout the area. Little information is available on the northern section and the sandy bottom areas.
- Considerable time should be spent gaining knowledge of cultural matters for the area. With the exception of Mokau, little information is available.
- Only a very cursory wildlife survey has been undertaken, with petrel nesting sites in particular, appearing more common than initially thought. Wildlife should be more thoroughly examined, and predation on nesting sites investigated.
- Although erosion has been well monitored over much of the area, sections that have missed out so far should be investigated.

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CONTACTS

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- Cook, Matt. Department of Conservation, Stratford Field Centre.
- Davis, Myk. Royal Forest and Bird Protection Society, Hawera.
- Hurrell, L. 66 Blagdon Road, New Plymouth.
- Komene, Roy and Phyllis. Taranaki tuturu. Hoani Road, RD 37, Okato.
- Lambert, Ron. Director: Taranaki Museum, New Plymouth.
- McKee, Joseph. Geologist. PO Box 5083, Palmerston North.
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- Ogle, Colin. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Randle, Graeme. Regional Representative, Ornithological Society of New Zealand, 44 Koromiko Road, Wanganui.
- Ravine, Don. Department of Conservation, Palmerston North Field Centre.
- Smithers, T. Cnr Goydon and Main Roads, Oakura.
- Taylor, Aila. 20 Hume Street, Waitara (Maori contact, local expert).
- Welch, Warwick; Shorter, Ken. Urenui Motor Camp. PO Box 25, Urenui.
- Wilson, T. Department of Conservation, New Plymouth Field Centre.

Site Record Forms

Site Name/s: Saltmarsh (Manawatu Estuary)

Site No: CRI 07 0001

Recorders Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26005 60774

Date: 15.2.90

Brief Description of Site: The area consists of 100 ha of saltmarsh containing a few isolated ponds, it is bounded by a stopbank to the north and the Manawatu River to the west and south, while the Foxton loop forms its eastern boundary. The area is sometimes used for grazing cattle and duckshooters have constructed maimais and a boardwalk by the ponds. This area is part of the greater Manawatu Estuary but due to its interesting botanical make-up it has been dealt with separately.

Conservation Values:

Natural: A B C F H

Cultural:

Historic:

Comment: This area has a high degree of naturalness (Ref 2). It supports a large population of North Island fernbirds (Bowdleria punctata vealeae) which are regionally threatened (Ref 4). This population of fernbirds is the southernmost population on the West Coast of the North Island (Ref 3). The area forms part of the Manawatu Estuary, which is recognised as an important area for birdlife (Ref 1). About half the area contains the jointed wire-rush (Leptocarpus similis) - saltmarsh ribbonwood (Plagianthus divaricatus) association which is representative of a pre-European condition (Ref 2). The Manawatu Estuary is regarded by the Ornithological Society of New Zealand as being an area of national importance for wading and other coastal birds (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is part of the Manawatu Estuary which is nationally important ornithologically (Ref 5). The saltmarsh itself is also important as the vegetation is representative of a pre-European condition (Ref 2).

Existing Threats:

Type: A B C D

Comment: There is a problem posed by some 20ha of the introduced rush Juncus acutus which has already taken over a large portion of herbfield in this area. Further investigation is needed to determine whether or not this plant will spread further. (Ref 2)

Cattle still graze this area and are damaging the native vegetation present while also facilitating the spread of weeds. There are also large patches of the cord grass (Spartina anglica) along the river edge.

Siltation, erosion and flooding by the Manawatu River have threatened the vegetation on the edge of this area. (Ref 2)

Human Modification and Human Use: Type: H

Comment: Some maimais and broadwalks exist and are used during the duckshooting season (Ravine, pers. obs.).

Existing Protection: Type: I

Comment: A small part of this area is crown land managed by the Department of Conservation but the bulk of it is private land and unprotected.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	<u>1</u>	2	3
Historic	<u>1</u>	2	3
Threats	<u>1</u>	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: The Manawatu estuary as a whole is well documented but little of that information applies directly to the saltmarsh.

Sources of Information:

Natural	<u>1</u>	2	<u>3</u>	4	5	6	<u>7</u>
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	<u>4</u>	5	6	<u>7</u>
Human Mod & Use	1	2	3	<u>4</u>	5	<u>6</u>	7
Protection	1	2	<u>3</u>	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

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5. Ornithological Society of New Zealand Records.

Contacts

Ravine D, Department of Conservation Palmerston North

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|-----------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. <u>Other</u> |
| 7. None | | |

Comment:

PNA - Phase II - Foxton Ecological District 1989. Unpublished survey cards, Department of Conservation.
 WERI - Record name - Manawatu River Mouth; Date of Survey : 1982 : Classification - National.
 Other - Department of Conservation files, Palmerston North Field Centre.
 SSWI Unpublished data available at the Department of Conservation, Wanganui.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Manawatu Estuary

Site No: CRI 07 0002

Recorders Name: Don Ravine

Conservancy: Wanganui

Map No: NZMS 260 S24

Grid Ref: 26998 60785

Date: 15.2.90

Brief Description of Site: This site consists of a river estuary with tidal mudflats and a series of sand dunes at the mouth. This area is a renowned bird feeding/breeding/roosting site. The estuary extends about 4km up the Manawatu River. The north bank includes part of Foxton Beach township. The estuary is used for boating, fishing, birdwatching and recreational vehicles.

Conservation Values: Natural: A B C F H Cultural: E Historic:

Comment:

The herbfields on the south bank of the estuary have a high degree of naturalness (Ref 1 and 9). Although modified by weeds such as marram (Ammophila arenaria) the dune complex shows a representative vegetation pattern (Ref 1 and 9) with healthy populations of indigenous shrubs present, especially Pimelea arenaria (Ref 1 and 9). The herbfield vegetation is probably representative of the pre-European condition (Ref 1 and 9). The estuary is recognised as an important feeding, breeding and roosting area for 58 species of birds, some of which are uncommon in New Zealand.

Regular users of the estuary include the endangered, white heron (Egretta alba modesta) and the threatened Australasian bittern (Botaurus stellaris poiciloptilus), wrybill (Anarhynchus frontalis), banded dotterel (Charadrius bicinctus bicinctus), and Royal spoonbill (Platalea leucorodia regia) which has its largest concentration in the North Island (up to 33 were seen here in 1989, Ref 10).

The endangered black stilt (Himantopus novaeseelandiae), has also been recorded here. The estuary is also regularly visited by a large variety of arctic migratory waders. Some of these include turnstones (Arenaria interpres interpres), red-kneed dotterel (Erythrogonys cinctus), eastern bar-tailed godwit (Limosa lapponica baueri) and uncommonly seen in New Zealand, the asiatic whimbrel (Numenius phaeopus variegatus) and the more common, terek sandpiper (Xenus cinereus) (Ref 7). Also present in the estuary is the threatened brown mudfish (Neochanna apoda) (ref 8).

Site Importance: International National Regional Local Unknown

Comment: The estuary is regarded as being of national importance by the Ornithological Society of New Zealand due to its diversity of avifauna and quality of habitat (Ref 2). This estuary is the best habitat for wading birds south of Kawhia in the North Island (Ref 6).

Existing Threats: Type: A C D J K

Comment: Spartina cordgrass (Spartina anglica) covers 80 hectares of the estuary which has reduced the amount of space for native species (Ref 3). Recreational off road vehicles threaten the dune communities (Ref 1 and 9). Other threats include the Foxton Beach dump, rabbit browsing damage to dune plants and flooding (Ref 4).

Human Modification and Human Use: Type: H I

Comment: The dunes are used for walking, and recreational off road vehicles which includes an informal racecrack for trail bikes. The river is used for boating, fishing and birdwatching.

Existing Protection: Type: C

Comment: The Horowhenua District Council has some esplanade reserves along sections of the river.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	2	<u>3</u>
Historic	1	2	3
Threats	<u>1</u>	2	3
Human Mod. & Use	1	<u>2</u>	<u>3</u>
Protection	1	<u>2</u>	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: OSNZ records and DOC files.

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	<u>6</u>	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	<u>4</u>	5	<u>6</u>	<u>7</u>
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	<u>7</u>
Protection	<u>1</u>	2	3	4	5	6	<u>7</u>

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

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10. Bell B, 1986. The Conservation Status of New Zealand Wildlife. NZ Wildlife Service, Department of Internal Affairs, Wellington. Occasional publication No. 12: 103p.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|-----------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | <u>6. Other</u> |
| 7. None | | |

Comment:

PNA Phase I Manawatu Ecological Region 1987
PNA Phase II Foxton Ecological District 1989
WERI -Record name - Manawatu River Mouth, date of survey 1982. Classification : National
SSWI - unpublished data held at the Department of Conservation, Wanganui
Palmerston North Field Centre, Department of Conservation files

Other Considerations: The rush, Juncus acutus is established on the south bank and may pose a threat.

Accompanying Maps and Photographs:

Site Name/s: Dune Lakes

Site No: CRI 07 0003

Responsible Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26009 60835

Date: 15.2.90

Brief Description of Site: This site consists of a series of dune lakes ranging in size from a few hectares in size to 25ha. Some are used extensively by birds and/or contain native shrubland. Most of the lakes are used recreationally for duckshooting.

Conservation Values:

Natural: A C F

Cultural:

Historic: B

Comment: Some lakes have a high degree of naturalness in that they contain shrubland over an unusually large area for the ecological district (Ref 1). They are also representative of a vegetation pattern which was probably quite extensive in the surrounding area (Ref 1). Other lakes are characterised by dense beds of raupo (Typha orientalis) which have remained ungrazed. Omanu Lake has a high diversity of birds for such a small area (Ref 2), and has unusually extensive mats of submerged aquatic plants such as Potamogeton pectinatus and Zannichellia palustris (Ref 3). Foxton Lake No. 2 has stands of tall bamboo sedge, Baumea articulata which is regionally rare (Ref 5).

Foxton Lake No. 1 which is one of the lower lakes in this string of dune lakes is also of archaeological interest. McFadgen (1972) recorded a midden with moa bones, shells and fish bones. The site also revealed evidence of structures such as a rectangular house. The lake itself may have wooden artefacts within it and the whole area is considered to be archaeologically sensitive (Ref 4.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: Most of these small lakes are of local importance, however Orouakaitawa swamp has been noted on Wetlands of Ecological and Representative Importance (WERI) as being of Regional importance. This rating was also assigned to it by the Catchment Authority but the reason was not given in the data base. It is regionally important botanically, because it supports the regionally rare plant, Baumea articulata (WERI).

Existing Threats:

Type: C D M

Comment: m = drainage

Raupo (Typha orientalis) and willow (Salix spp.) may need management in Omanu Lake (Ref 2), and the invasive waterweed, hornwort (Ceratophyllum demersum) is also present. In many of the lakes stock pressure and grazing may reduce habitat for birds. Stock damage also allows exotic weeds to encroach (Ref 1).

Drainage is also a threat to habitat quality and the wetland plant associations.

Human Modification and Human Use: Type: A H K

Comment: Many of the lakes are used recreationally for duck shooting (Ref 1). One lake has a drain across it and is also used for farm runoff (Ref 2).

Existing Protection: Type: D F

Comment: The Acclimatisation Society purchased Omanu Lake (25 ha) in 1988 and have a programme for enhancement (Ref 2). The rest of the lakes have no protective status over them. There is a rural sub-zone in the Manawatu District Scheme which covers two of the lakes; soil erosion has been identified as a hazard in these areas.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	<u>4</u>	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Reference

1. Ravine D, 1989. Protected Natural Areas Programme Phase II, Foxton Ecological District - Unpublished Survey cards, Department of Conservation, Palmerston North.
2. Skipworth J, 1988. Protected Natural Areas Programme Phase I, Foxton Ecological District - Unpublished report. Department of Conservation, Palmerston North.
3. Ogle C C, 1987. Vegetation of Foxton Lake No. 1 (Omanu), Foxton. Unpublished file report, Department of Conservation, Wanganui.
4. McFadgen B G, 1972. Palaeoenvironmental studies in the Manawatu sand plain with particular reference to Foxton. Unpublished M A thesis, University of Otago.
5. Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Contacts

- Fechney L. Department of Conservation, Wanganui.
- Ravine, D. Department of Conservation, Palmerston North.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: WERI - Record name - Orouakaitawa Swamp; Date of Survey - 1982; Significance - Regional
 SSWI - Unpublished data available at the Department of Conservation, Wanganui.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Coastal Dunes

Site No: CRI 07 0004

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: S24

Grid Ref: 26985 61830

Date: 25.2.90

Brief Description of Site: The site, which is partially farmed, consists of unstable sand dunes approximately 100ha.

Conservation Values:

Natural:

Cultural:

Historic: B

Comment: This area consists of a series of midden sites in the coastal dunes north of Foxton Beach (Ref 1, Ref 2).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of local importance due to the presence of midden (Ref 1). The biological values of the area have not been assessed yet.

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: This area is protected by a 'rural sub zone D' in the Manawatu District Scheme which recognises the unstable nature of the sand dunes (Ref 3).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Bailey D and Kozniak J, 1985. Report on an Archaeological Site Survey on the Coastal strip between the Manawatu and Rangitikei Rivers, North Island, New Zealand, in preparation for the 'Foxtangi' sand stabilisation scheme. Manawatu Museum Fieldwork Reports: No. 1 Manawatu Museum, Palmerston North.
2. NZ Archaeological Association Site Record Forms, Department of Conservation, Wellington, Record No. S24, 35-39.
3. Manawatu District Scheme.

Contacts:

Fechney L - Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

Historic Places Trust Inventory-Manawatu County 1984, S24 20, 26-34, 40, 41. Middens New Zealand NZ Archaeological Association Site Records: No. S24 - 35-39.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Foxtangi Dunes

Site No: CRI 07 0005

Recorders Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26990 60855

Date: 15.2.90

Brief Description of Site: This area is a dune complex stretching 9km from Himitangi to Foxton and extends up to 1km inland with mainly spinifex (Spinifex sericeus) on the foredune. Behind the foredune, areas of indigenous grasses, sedges and shrubs exist. Several sand basins contain wetlands with a diverse flora. Parts of this area are used for recreational vehicle activities.

Conservation Values:

Natural: A B D F H

Cultural:

Historic: B

Comment: Despite exotic plant species, parts of this area contain predominantly indigenous plant communities and are representative of the pre-European condition (Ref 1).

Pingao (Desmoschoenus spiralis locally important), sand daphne (Pimelea arenaria) which is indeterminate, and the sedge Eleocharis neozelandica which is endangered (Ref 4) have been found here (Ref 1). These wetland areas are sensitive to erosion and sand blow out as well as to the invasion by pampas (Cortaderia selloana) (Ref 1). This area consists of a series of coastal midden sites (Ref 2).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of international importance due to the presence of the endangered endemic plant, Eleocharis neozelandica (Ref 1 and 4).

Existing Threats:

Type: C D K

Comment: Pampas is spreading rapidly and is taking over all native species in wet areas (Ref 1). Marram (Ammophila arenaria) alters the dune structure and dune plant community structure (Ref 3). Stock also threaten the sensitive wetland areas by trampling (Ref 1). Recreational vehicles also damage the sensitive dune vegetation and are a problem over the whole area (Ref 1).

Human Modification and Human Use: Type: A H

Comment: Farming and forestry affects much of this area. There is also some recreational vehicle use of the dunes.

Existing Protection: Type: D

Comment: These dunes are zoned rural sub-zone D in the Manawatu District Scheme whose purpose recognises the unstable nature of the sand dunes (Ref 5).

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	<u>1</u>	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Information is limited to PNA survey cards and botanical society survey cards.

Sources of Information:

Natural	1	2	3	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	3	4	5	6	7
Human Mod & Use	<u>1</u>	<u>2</u>	<u>3</u>	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ravine D, 1990. Protected Natural Areas Programme, Phase II. Foxton Ecological District. Unpublished Survey cards, Department of Conservation, Palmerston North.
2. NZ Archaeological Association. Site Record Forms, Department of Conservation, Wellington. Record No. S 24 20, 26-34, 40, 41.
3. Esler A E, 1970, Manawatu Sand Dune Vegetation. New Zealand Ecological Society: Vol 17: pp41-46.
4. Given D R, 1990. Threatened Plant List and Local Plant List, New Zealand Botanical Region. Vascular Plants (draft). DSIR Land Resources, Christchurch.
5. Manawatu District Scheme.

Contacts

- Ogle C C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
 Ravine D. Department of Conservation, Palmerston North.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

PNA - Phase II Foxton Ecological District 1990.
 New Zealand Archaeological Association Records.
 Historic Places Inventory Manawatu County (1984) S24 35-39 middens.

Other Considerations: Pine plantings through much of this area will ultimately destroy natural values

Accompanying Maps and Photographs:

Site Name/s: Lake Koputara

Site No: CRI 07 0006

Records Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 2602i 60872

Date: 19.2.90

Brief Description of Site: This area is a dune lake of about 40ha which includes the swampy ground around the edges. Raupo (*Typha orientalis*), cabbage tree (*Cordyline australis*), flax, (*Phormium tenax*), *Carex secta* and toetoe (*Cortaderia toetoe*) are all common here. The lake is used for duck shooting.

Conservation Values:

Natural: A C F H

Cultural:

Historic:

Comment: The lake edges have a high component of representative, indigenous vegetation (Ref 1). Over 20 species of birds have been recorded on this lake (Ref 2). The lake edge is a breeding area for the NZ dabchick, (*Podiceps rufopectus*) which are nationally threatened, and the endangered brown teal (*Anas aucklandica chlorotis*) was released here. Other water birds are also present (Ref 2 and 4).

The area is a good example of a representative dune lake with a mixed drainage history (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of national importance due to the presence of the threatened (Ref 4) NZ dabchick. Although the endangered brown teal was released here, this area has not been field checked recently.

Existing Threats:

Type: D A C

Comment: Sambar deer damage cabbage trees in the area (Ref 1). A large encroaching dune to the west is moving into the lake which has been completely displaced from its original location over 100 years (Ref 1). Gorse (*Ulex europaeus*) is also spreading over this area (Ref 1)

Human Modification and Human Use: Type: A H

Comment:

Duckshooting is a shorebased recreational activity which is carried out here. There is also a house on the edge of the lake which is used as a holiday batch.

Existing Protection: Type: F

Comment: A QEII covenant (open space covenant) covers Lake Koputara (40ha) (Ref 2).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Information moderately well documented in QEII open space covenant files, WERI, and other databases.

Sources of Information:

Natural	<u>1</u>	2	<u>3</u>	4	5	6	7
Cultural	1	2	<u>3</u>	4	5	6	<u>7</u>
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	5	6	7
Human Mod & Use	<u>1</u>	<u>2</u>	3	4	5	<u>6</u>	<u>7</u>
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ravine D (1989) Protected Natural Areas Programme, Phase II Foxton Ecological District. Unpublished survey cards, Department of Conservation, Palmerston North.
2. QEII Open Space Covenant files. Department of Conservation Field Centre, Palmerston North.
3. Skipworth J (1988). Protected Natural Areas Programme Phase I. Manawatu Ecological Region. Unpublished report Department of Conservation, Palmerston North.
4. Bell B D (1986). The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No. 12. 103p.

Other References

5. Department of Conservation files, Palmerston North Field Centre.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

WERI : Site name, Lake Koputara; Date of Survey 1982; Significance National (insufficient information)
SSWI : Unpublished data available at Department of Conservation, Wanganui
PNA - Phase I Manawatu Ecological Region (1988)
PNA - phase II Foxton Ecological District (1989)

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Koputara Sandflats

Site No: CRI 07 0007

Recorder's Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26009 60877

Date: 19.2.90

Brief Description of Site: This area consists of 50ha of sand plain with a sand ridge to the north and south with parabolic dunes to the east. The eastern edge is covered by massive sand dunes that cover cabbage trees (*Cordyline australis*). Because the Maori owners have no legal access the area is theoretically unused by humans, though it was intended to be used for traditional Maori purposes such as fishing and the gathering of flax.

Conservation Values:

Natural: A B D F

Cultural:

Historic:

Comment: This site is unusually large for an area of dune flats which has not been farmed or deliberately modified. Large quantities of plants found here such as the sedge, *Isolepis basilaris*, and the herb, *Limosella lineata* are not common in this region. A dune hollow is under threat from invasion by sand. The area contains rare ecological units and is one of the best representative sites of its type in the Foxton ecological district (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of regional importance as it is one of the best examples of this type of sand plain vegetation in the Foxton Ecological District (Ref 1).

Existing Threats:

Type: C D

Comment: Pasture grasses and boxthorn (*Lycium ferocissimum*) are invading what is otherwise an area of indigenous sedges, rushes and herbs (Ref 1). Pampas (*Cortaderia selloana*) encroachment to the west may eventually cover this area (Ref 1). Cattle occasionally break through the fencing and roam through the area upsetting the delicate microecology of the communities (Ref 2). The area is very susceptible to invasion by sand, stock and weeds (Ref 1).

Human Modification and Human Use: Type:

Comment: None

Existing Protection: Type: D

Comment: The area is covered by a protective zoning (rural D) in the Manawatu District Scheme, which recognises the unstable nature of the sand dunes.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Information available from PNA survey cards and Department of Conservation files.

Sources of Information:

Natural	1	<u>2</u>	<u>3</u>	4	5	6	7
Cultural	1	2	<u>3</u>	4	5	<u>6</u>	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	<u>4</u>	5	6	<u>7</u>
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ravine D, 1989. Protected Natural Areas Programme, Phase II Survey, Foxton Ecological District. Unpublished survey cards, Department of Conservation, Palmerston North.
2. Department of Conservation files, Palmerston North Field Centre.

Contacts:

1. Ravine D - Department of Conservation, Palmerston North.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: PNA - Phase II, Foxton Ecological District.

Other Considerations: There has been some problem in this area regarding sand movement and access. This site is part of a larger area (112ha) of maori land.

Accompanying Maps and Photographs:

Site Name/s: Lake Kaikokopu

Site No: CRI 07 0008

Responsible Name: Leonie Fechner

Conservancy: Wanganui

Map No: S24

Grid Ref: 26023 60898

Date: 19.2.90

Brief Description of Site: This site consists of a 20ha dune lake with artificial stop banks. It has approximately 75% open water, 20% raupo (Typha orientalis), and Carex (Carex secta), and 5% crack willow (Salix fragilis). It is managed for water fowl and used recreationally for duckshooting.

Conservation Values:

Natural: C

Cultural:

Historic:

Comment: A good variety of waterfowl and other birds has been recorded, including the Australasian Bittern (Botaurus stellaris poeciloptilus which is classified as threatened (Ref 4). This lake is in private ownership and is an important breeding, feeding and roosting area for waterfowl. Management for waterfowl is being undertaken by the owner.

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important for the presence of the threatened (Ref 4) Australasian Bittern (Ref 1).

Existing Threats:

Type:

Comment: None

Human Modification and Human Use: Type: K

Comment: Artificial stopbanks which are part of protection works have decreased the area of the lake.

Existing Protection: Type: D

Comment: This site is part of a protective zone (Rural sub-zone D) in the Manawatu District Scheme which recognises the unstable nature of the sand dunes (Ref 5) which recognises the unstable nature of the sand dunes.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	<u>3</u>	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Skipwroth J (1987) Protected Natural Areas Programme Phase I Manawatu Ecological Regional. Unpublished report, Department of Conservation, Wanganui.
2. Bell B D, (1986). The Conservation Status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No. 12. 103p.
3. Manawatu District Scheme.

Contacts

Fechney L, Department of Conservation

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

WERI: Site Name - Lake Kaikokopu; Date of Survey 1985. Significance - National (insufficient information).
SSWI: New Zealand Wildlife Service Unpublished data held at Department of Conservation, Wanganui.
PNA - Phase I - Manawatu Ecological Region.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Tangimoana State Forest

Site No: CRI 07 0009

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: S24

Grid Ref: 26995 60935

Date: 19.2.90

Brief Description of Site: This site consists of pine forest and associated scrub on dune country. The size of this area is unknown.

Conservation Values:

Natural: B

Cultural:

Historic: B

Comment: The North Island fernbird (Bowdleria punctata vealeae) which is regionally threatened (Bell 1986) have been recorded here (Fauna Survey Unit, 1985). However, a recent survey (1990) by the Palmerston North Field Centre failed to locate any fernbirds.

This site also has an extensive area of scattered midden sites stretching down the coast about 500m to 1km inland (New Zealand Archaeological Association Records). There is evidence that sites were probably originally coastal dune sites.

Site Importance:

International

National

Regional

Local

Unknown

Comment: Fernbird are a regionally threatened species (Bell 1986), thus this area is of regional importance.

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: This area is part of a protective zoning under Manawatu District Scheme (rural sub-zone D), which recognises the unstable nature of the sand dunes.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

Bell B D (1986). The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service. Department of Internal Affairs, Wellington. Occasional Publication No. 12 103p.
New Zealand Archaeological Association. Site Record Forms, Department of Conservation, Wellington. Record No S24 4, 9-19.
Manawatu District Scheme
Fauna Survey Unit, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Unpublished data available at the Department of Conservation, Wanganui.

Contacts

Fechney L, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 5. None | | |

Comment:

Historic Places Trust Manawatu County Inventory 1984 S24 4, 8-19 (middens)
New Zealand Archaeological Association
SSWI - Unpublished data available at Department of Conservation, Wanganui.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Pukepuke Lagoon

Site No: CRI 07 0010

Recruiters Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26025 60935

Date: 19.2.90

Brief Description of Site: Though called a lagoon, Pukepuke has migrated 3km inland as a result of sand movement. This 80ha wetland complex comprises one large natural lake and a series of artificial ponds and is designated a Wildlife Management Reserve under the Reserves Act. Vegetation consists of mainly raupo (*Typha orientalis*) with some areas of flax (*Phormium tenax*), cabbage trees (*Cordyline australis*) and shrubs. Pampas (*Cortaderia selbana*) and evergreen oaks (*Quercus* sp.) have been planted in places. Accommodation is available at Pukepuke Lagoon.

Conservation Values:

Natural: B C G

Cultural: A E

Historic:

Comment: The area is important as a breeding area for waterfowl (Ref 7). Large numbers of bird species are present and include the threatened Australasian bittern (*Botaurus stellaris poiciloptilus*) and threatened New Zealand dabchick (*Podiceps ruropectus* (Refs 3 and 6). A resident population of the regionally threatened North Island fernbird (*Bowdleria punctata vealeae*) are also present (C. Ogle pers. comm., Ref 6). Botanically the area is only of moderate value as there are large numbers of exotic plants and only small areas of indigenous vegetation other than raupo (Ref 4).

This area is traditionally fished for eels by Maori (Ref 4) and is also extensively used by schools because of its high educational value (Ref 4).

Pukepuke Lagoon has been the site of numerous scientific studies by the New Zealand Wildlife Service and students from Massey and Victoria University.

Site Importance:

International

National

Regional

Local

Unknown

Comment: Pukepuke Lagoon is a renowned breeding area for waterfowl and contains two threatened (Ref 6) bird species; the Australasian bittern and the NZ dabchick (Ref 3).

Existing Threats:

Type: E

Comment: Runoff from farmland increases fertility and facilitates the rapid spread of raupo which reduces the area of open water (Ref 4).

Human Modification and Human Use: Type: A H J K

Comment: Parts of this area has been modified by the construction of buildings and roads. Cattle are also farmed in this area. The Pukepuke Lagoon is used recreationally for duckshooting, educational purposes, and is popular with bird watchers. Local Maori hold traditional eeling rights over the main lake.

Existing Protection: Type: A B

Comment: This area is designated as an 80ha wildlife management reserve by the Department of Conservation. A gazettal is still pending. This area is also part of a larger area designated in the district planning scheme as a proposed Regional Park.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Well documented draft management plan exists.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Skipworth J (1988). Protected Natural Areas Programme. Phase I. Manawatu Ecological Region.
2. Fauna Survey Unit, New Zealand Wildlife Service, 1985, Department of Internal Affairs, Wellington (SSWI record sheets). Department of Conservation, Wanganui.
3. WERI (1985).
5. Pukepuke Wildlife Management Reserve Management Plan (Draft). Department of Conservation, Wanganui.
5. Bell B D (1986). The conservation status of New Zealand Wildlife. New Zealand Wildlife Service, Wellington. Occasional Publication No. 12.

Contacts:

- Ravine D. Department of Conservation, Palmerston North.
 Ogile C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 1. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- SSWI - unpublished data available at Department of Conservation, Wanganui.
 WERI - Pukepuke Lagoon, date of survey 1985; Significance - national
 PNA - Skipworth J (1988). Protected Natural Areas Programme - Phase I. Manawatu Ecological Region. Unpublished report, Department of Conservation, Wanganui.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Tangimoana dump dunes

Site No: CRI 07 0011

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: S24

Grid Ref: 26993 60977

Date: 19.2.90

Brief Description of Site: This area comprises a 159 ha remnant of a range of indigenous dune communities, including primary sand binders, shrubs and wetlands. It is a popular area for recreational vehicle users.

Conservation Values:

Natural: A B D F H

Cultural:

Historic:

Comment: Some wetland areas and parts of the dunes contain a high degree of naturalness (Ref 1). The endemic endangered sedge Eleocharis neozelandica, the sedge, pingao (Desmoschoenus spiralis = local) and the indeterminate shrub, sand daphne (Pimelea arenaria) are all found in this area (Ref 1). On the southern edge is a five hectare wetland which has a population of the regionally threatened North Island fernbird (Bowdleria punctata vealeae) (Ref 1). The plant communities present are susceptible to being overrun by weeds, and the wetlands are sensitive to changes in the water table (Ref 1). The indigenous sand-binding vegetation sequence which still exists here as well as some of the ephemeral wetland communities, are representative of the pre-European condition (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The presence of Eleocharis neozelandica which is an endemic endangered sedge makes this an area of international importance (Ref 1 and 2).

Existing Threats:

Type: C K J

Comment: This area is continually threatened by the encroachment of marram (Ammophila arenaria) and pampas (Cortaderia seloana), climbing dock (Rumex sagittatus) and grasses which will ultimately destroy the natural values of the area (Ref 1). Damage by recreational vehicles has accelerated sand drift (Ref 1). A rubbish dump covers areas of pingao (Desmoschoenus spiralis) and the sedge Carex pumila (Ref 1).

Human Modification and Human Use: Type: H K

Comment: Part of this area is used as a rubbish dump, while the area is popular with recreational off road vehicle users.

Existing Protection: Type: B D

Comment: Much of the land is owned by the Local Authority and there is some protection under the Manawatu County District Scheme. This 159ha area is part of the larger area designated as proposed Tangimoana Regional Park in the District Planning Scheme, totalling 3027 hectares (Ref 4).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	5	6	7
Human Mod & Use	<u>1</u>	<u>2</u>	<u>3</u>	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ravine D, (1989-1990). Protected Natural Areas Programme - Phase II. Foxton Ecological District Unpublished Field Notes, Department of Conservation, Palmerston North.
2. Given D R, 1990. Threatened Plant List and Local Plant List, New Zealand Botanical Region. Vascular Plants (draft) DSIR Land Resources, Christchurch.
3. Maui Stage II Development Environmental Impact Report Addendum. Shell BP and Todd Oil Services Limited (1989).
4. Manawatu District Planning Scheme.
5. Bell B D, 1986. the Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No. 12. 103p.

Other References:

- Department of Lands and Survey 1975. Coastal Reserves Investigations. Report on Rangitikei County. Department of Lands and Survey, Wellington: 17p.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: PNA - Ravine D, 1989-90. Protected Natural Areas Programme. Phase II Foxton Ecological District Unpublished Survey Cards, Department of Conservation, Palmerston North.

Other Considerations: There is a proposal by Shell BP Todd to construct at this area (Ref 3).

Accompanying Maps and Photographs:

Site Name/s: Rangitikei River Estuary

Site No: CRI 07 0012

Reservers Name: Don Ravine

Conservancy: Wanganui

Map No: S24

Grid Ref: 26998 60999

Date: 19.2.90

Brief Description of Site: This site is an estuarine area covering approximately 200ha. A saltmarsh covers half the area while the remainder comprises a river, two oxbow lakes (joining the river at high tide), dunes and a sand plain. The fringes of the area are used for whitebaiting.

Conservation Values:

Natural: A C F H

Cultural:

Historic:

Comment:

The saltmarsh has a large component of introduced grasses. However a native community of the sea rush (Juncus maritimus) and jointed rush (Leptocarpus similis) thrives over a thick mat of indigenous and exotic herbs (Ref 1 and 4).

The dunes are mainly introduced marram (Ammophila arenaria) and spinifex (Spinifex sericeus) with some pingao (Desmoschoenus spiralis = local) (Ref 5) and some secondary sand binders (Ref 1 and 4). Plants of interest include the sedges Bolboschoenus caldwellii, and Carex litorosa, and the herb Cotula (Leptinella) dioica ssp. digica (Ref 4).

Despite the exotic grasses the saltmarsh has a high degree of naturalness (Ref 1). Thirty five different bird species have been identified from the estuary (Ref 2). Vegetation on the saltmarsh is probably very similar to prorean vegetation (Ref 1).

This estuary is also regionally important for wading birds with white-fronted terns (Sterna striata), banded dotterel (Charadrius bicinctus bicinctus) which is a threatened species, pied stilt (Himantopus himantopus leucocephalus) and the rare, variable oystercatcher (Haematopus unicolor) (Ref 2 and 7).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The presence of the threatened (Ref 7) banded dotterel (Charadrius bicinctus bicinctus) makes this area of national importance. This site is given regional importance in Wetlands of Ecological and Representative Importance (WERI).

Existing Threats:

Type: C K

Comment: Introduced grasses and gorse (Vlex europaeus) may eventually out-compete the indigenous vegetation. Horsetail (Equisetum arvense) is already present on the true left of the river (Ref 6). Dunes are modified by marram and recreational vehicles (Ref 1).

Human Modification and Human Use: Type: H I

Comment: The area is used for whitebaiting and fishing. Heavy recreational vehicle use has had a major effect on the dune areas though the saltmarsh is not easily accessible to these users.

Existing Protection: Type:

Comment: Crown land with no protection.

Availability of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>
Cultural	1	2	<u>3</u>
Historic	1	2	3
Threats	<u>1</u>	2	3
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Sources of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	5	6	7
Cultural	<u>1</u>	2	<u>3</u>	4	5	<u>6</u>	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ravine D (1989-1990) Protected Natural Areas programme Phase II Foxton Ecological District. Unpublished survey cards. Department of Conservation, Palmerston North.
2. Fauna Survey Unit 1985 New Zealand Wildlife Services, Department of Internal Affairs, Wellington. Unpublished data, Department of Conservation, Wanganui.
3. WERI (1985)
4. Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui
5. Given D R, (1990) Threatened Plant List and Local Plant List. New Zealand Botanical Regio. Vascular Plants (Draft) DSIR Land Resources, Christchurch
6. Brownsey P D, Moss T C, Sneddon B V, (1985). Core production in Equisetum arvense. Wellington Botanical Society Bulletin 42:16-21.
7. Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service Department of Internal Affairs, Wellington, Occasional Publication No 12: 103p.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

WERI - Site record name. Rangitikei River Mouth, Date of Sruvey 1985 Significance - Regional
SSWI - Unpublished data held at Department of Conservation, Wanganui
PNA - Phase I Manawatu Ecological Region 1987. Unpublished data, Department of Conservation, Palmerston North.
PNA - Phase II Foxton Ecological District 1989. Unpublished data, Department of Conservation, Palmerston North.

Other Considerations: The river bed is subject to occasional changes of course.

Accompanying Maps and Photographs:

Site Name/s: Santoft Forest

Site No: CRI 07 0013

Records Name: L Fechney

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26993 61400

Date: 26.02.90

Brief Description of Site: This area consists of duneland planted in pines (Pinus radiata) and is known as Santoft Forest. The exact area of this site is unknown.

Conservation Values:

Natural:

Cultural:

Historic: B

Comment: This is the site of a midden depicted by a scatter of tuatua shells over an area of 10m x 8m in a deflated dune.

Site Importance:

International

National

Regional

Local

Unknown

Comment: Further research is required to establish the classification of this site.

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type: A

Comment: Apart from forestry, human use and modification of this area is unknown.

Existing Protection: Type: -

Comment: None

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: -

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Comment:

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

New Zealand Archaeological Association, Site Record Forms, Department of Conservation, Wellington. Record No. S23 11.
Historic Places Trust County Inventory - Rangitikei County, 1985 site number S23: 11.

Other Considerations: Research to assess the classification of the site is necessary.

Accompanying Maps and Photographs: -

Site Name/s: Rangitikei-Turakina Foredunes

Site No: CRI 07 0014

Reservers Name: D Ravine

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26970 61126

Date: 20.02.90

Brief Description of Site: This area consists of a 24km long series of foredunes from the Rangitikei River to the Turakina River. The dunes are vegetated mainly by spinifex (Spinifex sericeus) from the toe to the crown of the dune, with several areas of pingao (Desmoschoenus spiralis). From the crown of the dune back is mainly marram (Ammophila arenaria), with exotic forestry plantings starting from 30-100m from the toe of the dune. Few natural values remain at the Raumai bombing range as although pine planting is absent, the fires and physical disturbance caused by the bombing have destroyed most of the natural values. The foredune is a good representation of initial sand stabilisation by indigenous plants. The spit at the Rangitikei River mouth has incipient foredunes with marram, pingao and spinifex (pers. obs.).

Conservation Values:

Natural: D, F

Cultural: A

Historic: D

Comment: This area consists of a long, largely unbroken, stretch of representative, indigenous sandbinding plant community. There is a relatively large quantity of pingao (Desmoschoenus spiralis = local), (Ref 3), on the northern section, however elsewhere it is scattered (Ref 1).

Pingao has a very important place in Maori mythology and culture. Pingao is used by Maori for weaving and in the construction of tukutuku panels which are used to line meeting houses (Ref 5).

This area also includes an historic shipwreck the "Fusilier" which sank in 1884 (Ref 2). This wreck is still visible amongst the sand dunes in the pine forest.

This area is fragile and sensitive as the dunes are prone to blow out and erosion.

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is considered to be of national importance due to the presence of pingao. In this assessment the biological criteria and cultural significance of pingao have been considered.

Existing Threats:

Type: C, M

Comment: Introduced species such as marram, lupin (Lupinus arboreus) and acacia (Acacia sophorae) have reduced the habitat available for native species such as pingao and tauhinu (Cassinia leptophylla). Spinifex appears to out-compete the introduced species down at the toe of the dune. However, the situation appears to be stable according to Ravine (1990) at this stage.

Raumai Bombing range is part of this area and is used as a practice area by RNZAF. Its designation is for defence purposes and extends offshore for a 3km radius. Public access is restricted in that part of the area.

Human Modification and Human Use: Type: K

Comment: A Ministry of Defence bombing range is situated midway along the stretch of foredunes. The rest of the dunes are backed by exotic forest (pines).

Existing Protection: Type: D

Comment: This area of foredunes has a protective zoning of rural 'c' in the Rangitikei County District scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: -

Sources of Information:

Natural	1	2	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	<u>4</u>	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ravine D, 1990. Protected Natural Areas Programme Phase II Foxton Ecological District unpublished field notes, Department of Conservation, Palmerston North.
2. Ingram, CWN, New Zealand Shipwrecks.
3. Given D R, 1990. Threatened Plant List and Local Plant List New Zealand Botanical Region Vascular Plants (draft) DSIR Land Resources, Christchurch.
4. Ogle C C (1990). Vascular plants of Santoft State Forest and adjoining lands, Bulls. Wanganui Plant List II (unpublished). Department of Conservation, Wanganui 7pp.
5. Paneke Conservation Team, 1990. Pingao and Kakaho on the Manawatu/Rangitikei Coast. Paneke Community Development and Training Organisation 65pp.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

New Zealand Archaeological Association, Records. Record No. S23-6.
PNA - Phase II Foxton Ecological District 1989.
Historic Places Trust - Rangitikei County Inventory 1985. Site number S23: 6.

Other Considerations: Several other trial plantings by NZ Forest Service are sparingly naturalised in the vicinity of the "Fusilier" wreck, and should be monitored for possible spread; they include saltbush (Atriplex halimus), hedge artemisis (Artemisia arborescens), bone seed (Chrysanthemoides monilifera), and the grass Ehrharta calycina (Ref 4).

Accompanying Maps and Photographs: -

Site Name/s: Waimahora Swamp

Site No: CRI 07 0015

Reserves Name: D Ravine

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26975 61157

Date: 21.02.90

Brief Description of Site:

This area consists of a wet dune hollow opening out to a sandplain to the east and covers an area of approximately 30ha. The area contains a variety of reed, rush and sedge communities whose existence is based on subtle differences in the water table and fertility. Forestry lies to the north, west and south of this area, while to the east of the swamp lies farmland. Pine trees line the edge of the hollow, though some have recently been felled.

Conservation Values:

Natural: A, B, C, F, H

Cultural:

Historic:

Comment: The area contains wetland communities with a high degree of naturalness, some of which are rare in the Foxton Ecological District (Ref 2). The pine forest on the edge of the swamp contains at least four native orchid species. The vulnerable (Ref 3) herb, Mazus pumilio has been found here and other regionally rare herbs include native mint (Mentha cunninghamii), burr reed (Sparganium subglobosum), swamp millet (Isachne globosa), a buttercup (Ranunculus macropus), and a willowherb (Epilobium chronanthum). Spotless crake (Porzana tabuensis plumbea) and fernbird (Bowdleria punctata vealeae) have also been seen in this area (pers. obs.). Fernbird is a regionally threatened species and few areas in the Foxton Ecological District are known to support this species (pers. obs.). The area is probably representative of pre-European wet dune hollow vegetation (Ref 2).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important botanically due to the presence of the vulnerable herb Manzus pumilia (Ref 3 and Ref 4). In addition this area may be unique in the Foxton Ecological District (Ref 2).

Existing Threats:

Type: D, C

Comment: Cattle browse the eastern part of this area (Ref 2), while from the west, alders (Alnus glutinosa), are invading and may eventually dry out much of this swamp (Ref 1, 2).

Human Modification and Human Use: Type: H

Comment: A maimai suggests duckshooting occurs within this area (pers. obs.).

Existing Protection: Type: A

Comment: The most natural (least modified) eastern section of this area is in the process of being allocated to the Department of Conservation.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: The area is listed under a general plant list for the Santoft area.

Sources of Information:

Natural	1	<u>2</u>	3	4	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	2	3	<u>4</u>	5	6	<u>7</u>
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ogle C C, 1990. Vascular plants of Santoft State Forest and adjoining lands, Bulls. Wanganui Plant List II (unpublished) Department of Conservation, Wanganui. 7p.
2. Ravine D, 1990. Protected Natural Areas Programme. Phase II - Foxton Ecological District unpublished data - Department of Conservation, Palmerston North.
3. Given D, 1990. Threatened plant list and local plant list. New Zealand Botanical Region (in draft) DSIR Land Resources, Wellington.
4. Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs Occasional publication 12, Wellington. 103p.
5. Timberlands Ecological Covenant file. Department of Conservation, Palmerston North.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

PNA - Skipworth J 1987 Manawatu Ecological Region Phase I and Ravine D 1989, Foxton Ecological District Phase II Manawatu Ecological Region. Unpublished data. Department of Conservation, Palmerston North.

Other Considerations: -

Accompanying Maps and Photographs: -

Site Name/s: Blind Lakes

Site No: CRI 07 0016

Responsible Name: Colin Ogle

Conservancy: Wanganui

Map No: S23

Grid Ref: 26981 61165

Date: 25.02.90

Brief Description of Site: This area consists of two ephemeral ponds in sand dune hollows. The ponds are surrounded by pines (Pinus radiata) and exotic trees. The exact area of this site is unknown.

Conservation Values:

Natural: D F

Cultural:

Historic:

Comment: This area is representative of small ephemeral lakes in this area which are fragile environmentally sensitive areas (pers. obs.). The vegetation is typically mat-forming semi-aquatic plants, including the regionally rare grass Lachnagrotis filiformis s.s. (Ogle, 1990).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is regionally important due to the presence of the regionally rare grass Lachnagrotis filiformis ss (Ogle 1990).

Existing Threats:

Type: C

Comment: This area is susceptible to exotic weed invasion as well as the spread of poplars (Populus sp.) and alders (Alnus glutinosa) from the edges of the lakes (pers. obs.).

Human Modification and Human Use: Type: H, K

Comment: This area is used as a recreational hunting spot and for a source of water for fire fighting.

Existing Protection: Type: A

Comment: Work is presently underway to covenant both lakes. At present an interim agreement has been made between Timberlands and the Department of Conservation and survey of the boundaries has been initiated.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: -

Sources of Information:

Natural	1	2	3	4	<u>5</u>	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	<u>5</u>	<u>6</u>	7
Human Mod & Use	1	2	3	4	<u>5</u>	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Ogle C C, 1990. Vascular plants of Santoft State Forest and adjoining lands, Bulls. Wanganui Plant List II (unpublished). Department of Conservation, Wanganui. 7p.

Contacts:

- Colin Ogle, Conservancy Advisory Scientist - Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comments:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Lake Koitiata

Site No: CRI 07 0017

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26971 61185

Date: 21.02.90

Brief Description of Site: This dune lake covers approximately 8ha. To the east the area is farmed, while round the rest of the lake the area is planted in pines down to the lake edge.

Conservation Values:

Natural: C B

Cultural:

Historic:

Comment: The area has very little native vegetation on the edges apart from some stands of the sedge Schoenoplectus validus (Ref 2). A few native herbs can be found among the exotic species on the wet edge of the area. These herbs include milfoil (Myriophyllum propinquum), bachelor's button (Cotula coronopifolia), (Hydrocotyle novae-zeelandiae), New Zealand cinquefoil (Potentilla aniserinoides), a buttercup (Ranunculus amphitrichus) and a cress Rorippa palustris (Ref 2). The lake used by a large number of water birds (Ref 4).

These include grey duck (Anas superciliosa superciliosa), paradise duck (Tadorna variegata), large numbers of black swan (Cygnus atratus), and the New Zealand shoveler (Anas rhyncotis variegata) which use this area for feeding and breeding (Ref 4). Also present is the threatened (Ref 5) New Zealand dabchick (Podiceps rufopectus) (Ref 4).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of national importance due to the presence of the threatened endemic NZ dabchick (Bell, 1986).

Existing Threats:

Type: C, D,

Comment: Browsing of vegetation occurs round this lake mostly by Sambar deer and cattle (Ref 3). Invasion by weeds; introduced herbs and willows (Salix sp.), pose a threat in terms of outcompeting indigenous vegetation such as cress and buttercup (Ref 3).

Human Modification and Human Use: Type: A, H

Comment: Farming and forestry run down to the edge of the lake and this lake is also used for duckshooting.

Existing Protection: Type: A

Comment: Lake Koitiata is an 8ha Wildlife Management Reserve administered by the Department of Conservation and appears to be adequate.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	<u>1</u>	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: The area has been well documented in Departmental files and Ornithological Society of New Zealand records.

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	<u>4</u>	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	3	4	5	6	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Skipworth J, 1988. Protected Natural Areas Programme Phase I Manawatu Ecological Region. Unpublished report, Department of Conservation, Palmerston North.
2. Ogle C C, (1990). Vascular Plants of Santoft State Forest and adjoining lands, Bulls. Wanganui Plant List 11 (unpublished), Department of Conservation, Wanganui. 7p.
3. Department of Conservation files, Palmerston North.
4. Fauna Survey Unit, New Zealand Wildlife Service 1988. Department of Internal Affairs, Wellington. Unpublished data, held at Department of Conservation, Wanganui
5. Bell B, 1986. Department of Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No 12 103pp.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

WERI - Site Name: Lake Koiitiata ; Data of survey 1985. Significance. Insufficient information
 SSWI - Unpublished data available at the Department of Conservation, Wanganui
 PNA - Phase I Manawatu Ecological District, Department of Conservation, Palmerston North

Other Considerations: Neighbouring pines may cause a lowering of the water table making the habitat less suitable for indigenous wetland species.

Accompanying Maps and Photographs:

Site Name/s: Tunnel Hill

Site No: CRI 07 0018

Responsible Name: Colin Ogle

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26980 61215

Date: 21.02.90

Brief Description of Site: This area consists of a 50ha wetland area with a meandering stream and a representative remnant of dune wetland shrub vegetation including the endemic Coprosma propinqua, C. rigida, Olearia virgata, O. solandri, manuka (Leptospermum scoparium) and cabbage tree (Cordyline australis) (Ref 1). Some of the area is managed by Timberlands, while the rest is in private ownership. Many exotic plants species are present.

Conservation Values: Natural: F Cultural: Historic:

Comment: This is a large area with a reasonably diverse shrub flora representative of the pre-European vegetation which was once common in this part of the country (Ref 2). The vegetation type and many of the species such as Coprosma rigida and Olearia solandri are uncommon on this coast especially north of Himatangi (Ref 2) (pers. obs.).

Site Importance: International National Regional Local Unknown

Comment: This site is probably regionally important for the representative remnant of dune wetland scrub vegetation present.

Existing Threats: Type: C, D

Comment: Invasive weeds and cattle damage the vegetation in the private land within this area and threaten its ecological values (Ref 2).

Human Modification and Human Use: Type: A

Comment: The land in private ownership is farmed, while the western edges of this area are planted in pine (Pinus radiata).

Existing Protection: Type: A

Comment: Part of this area is going to be covenanted. However, at this stage an interim agreement on the area's protection has been signed between Timberlands and the Department of Conservation and survey of the boundaries has been initiated.

Availability of Information:

				1. Well documented
Natural	1	2	3	2. Limited information (general)
Cultural	1	2	3	3. Little information (if any)
Historic	1	2	3	
Threats	1	2	3	
Human Mod. & Use	1	2	3	
Function	1	2	3	

Comment: This information is derived from a general Santoft plant list (Ref 1) and has not yet been visited by the PNA survey team.

Sources of Information:

Natural	<u>1</u>	2	3	<u>4</u>	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	<u>2</u>	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ogle C C, 1990. Vascular plants of Santoft State Forest and adjoining lands, Bulls. Wanganui Plant List II (unpublished. Department of Conservation, 7pp.
2. Santoft Forest Ecological Covenant DOC file, Department of Conservation, Palmerston North Field Centre.
3. DOC files and field survey reports, Department of Conservation, Palmerston North.

Contacts:

- Ogle C. - Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Ravine D - Department of Conservation, Palmerston North.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations: Neighbouring pine forest may be lowering the water table.

Accompanying Maps and Photographs:

Site Name/s: Koitiata Recreation Reserve

Site No: CRI 07 0019

Responsible Name: Leonie Fechney

Conservancy: Wanganui

Map No: S23, R23

Grid Ref: 26930 61227

Date: 21.02.90

Brief Description of Site: This area consists of an extensive (over 100ha) area of foredune with wetlands in swale along the south bank of the Turakina River mouth. The dunes are covered in a mixture of marram grass (Ammophila arenaria), Spinifex (Spinifex sericeus) and pingao (Desmoschoenus spiralis). Wetland areas are mainly characterised by the jointed wire rush (Leptocarpus similis) and flax (Phormium tenax). Some mudflats exist with glasswort (Sarcocornia quinqueflora) and the sedge Schoenoplectus pungens. Some toetoe, (Cortaderia toetoe) and the shrubs Coprosma propinqua and Olearia solandri are also present. Santoft pine forest binds the inland edge of this area. Tall fescue (Festuca arundinacea) exists through the wetter areas while marram (Ammophila arenaria) is found in the drier areas. The area receives high recreation use (walking and recreation vehicles).

Conservation Values:

Natural: A, D, F

Cultural:

Historic:

Comment: Although the natural values of this area have been reduced through the planting of pines (Pinus radiata), and the establishment of marram and fescue (Ref 1), some natural values do still exist through the dunes and wetlands such as the presence of Pingao (Desmoschoenus spiralis = local) (Ref 1). However, the natural values are under threat by the encroachment of weeds such as tall fescue (festuca arundinacea) (Ref 1). This area is representative of the type of areas which would have once been common in the sand country (Ref 1). The nationally endangered (Ref 3) herb Sebaea ovata was found here in 1967 (Ref 4), but has not been thoroughly searched for since.

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is considered to be nationally important due to the presence of pingao. In this assessment the biological criteria and cultural significance of pingao have been considered (however if Sebaea ovata is still present then this site would be internationally important due to the presence of an endangered plant.

Existing Threats:

Type: K, C,

Comment: Sand dunes are under threat from recreational vehicles and the whole of Koitiata Recreational Reserve is being invaded by weeds such as tall fescue, pampas (Cortaderia selloana) and wild pines in the flats, while marram and sand primrose (Oenothera stricta) are prominent on the dunes (Ref 1).

Human Modification and Human Use: Type: A, H

Comment: The area has a high recreational use such as walking, fishing and recreational vehicles. The area itself has been modified by the planting of a pine forest.

Existing Protection: Type: C, D

Comment: A recreation reserve vested in the county covers 30 ha of this area. The outer or seaward boundary of this area has a rural 'C' zoning (coastal protection) over it as seen in the Rangitikei County District Scheme (Ref 2).

Availability of Information:

Natural	<u>1</u>	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>	4	<u>5</u>	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	<u>3</u>	4	5	6	7
Human Mod & Use	<u>1</u>	<u>2</u>	<u>3</u>	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ravine D, 1989. Protected Natural Areas Programme Phase II Foxton Ecological District Unpublished Field Notes, Department of Conservation, Palmerston North.
2. Rangitikei County District Scheme
3. Given D, 1990. Threatened Plant List and Local Plant List - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
4. Ogle, C 1989. Sebaea ovata (Gentianaceae) and its habitat near Wanganui. Wellington Botanical Society Bulletin 45: 92-99.

Contacts:

Fechney L, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

PNA - Skipworth J, 1988. PNAP Phase I Manawatu Ecological Region, Department of Conservation, Palmerston North.
 Ravine D, 1990. PNAP Phase II Foxton Ecological District, field notes, Department of Conservation, Palmerston North.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Turakina River Mouth Spit

Site No: CRI 07 0020

Recorders Name: Don Ravine

Conservancy: Wanganui

Map No: S23, R23

Grid Ref: 26922 61233

Date: 21.02.90

Brief Description of Site: This area consists of a series of incipient foredunes on the spit at the Turakina River mouth. These dunes are stabilised mainly by pingao and spinifex with very little marram (Ammophila arenaria). The spit is 100m wide and about 1km long.

Conservation Values:

Natural: A, B, D, F

Cultural:

Historic:

Comment: There is a high degree of naturalness in this area due to the unusual dominance of indigenous sand binders, especially pingao (Desmoschoenus spiralis = local) (Ref 14). The area is representative of early stage sand stabilisation by indigenous plants.

This area is susceptible to rapid change due to flooding of the Turakina River (Ref 2). Some migratory waders use this estuary with the Eastern bar-tailed Godwit (Limosa lapponica) being recorded here. The threatened (Ref 5), banded dotterel (Charadrius bicinctus bicinctus) has also been recorded here.

Site Importance:

International

National

Regional

Local

Unknown

Comment: The presence of the threatened banded dotterel also makes this site of national importance.

Existing Threats:

Type: A, K

Comment: This area is subject to periodical flooding of the Turakina River (Ref 2). The area is also used by recreational vehicle which damage pingao and other indigenous plants (Ref 1).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: This area is protected by a Rural 'C' (coastal protection) zone in the Rangitikei County District Scheme (Ref 3)

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	<u>5</u>	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ravine D, 1989. Protected Natural Areas Programme Phase II Foxton Ecological District Unpublished survey cards, Department of Conservation, Palmerston North.
2. Aerial Photos, Department of Conservation, Palmerston North.
3. Rangitikei County District Scheme
4. Given DR, Threatened Plant List and Local List. New Zealand Botanical Region. Vascular Plants (in draft) DSIR, Land Resources Christchurch.
5. Bell B, 1986. Conservation status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional publication No. 12: 103pp.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

PNA - Phase II Foxton Ecological District (1989). Unpublished date, Department of Conservation, Palmerston North.

SSWI - unpublished data available at the Department of Conservation, Wanganui

Other Considerations: The houses at Koitata township are threatened by flooding due to the presence of the spit and there has been a proposal to straighten the river mouth.

Accompanying Maps and Photographs:

Site Name/s: Turakina Fernbird Population

Site No: CRI 07 0021

Responsible Name: Leonie Fechney

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26913 61255

Date: 21.02.90

Brief Description of Site: This 14ha area consists of shrubland with lupin (Lupinus arborea) and manuka (Leptospermum scoparium) over jointed wire rush (Leptocarpus similis) surrounded by marram (Ammophila arenaria) covered dunes. Ephemeral wetlands occur in dune hollows (C Ogle pers. comm.).

Conservation Values:

Natural: B

Cultural:

Historic:

Comment: North Island Fernbirds (Bowdleria punctata vealeae), which are regionally threatened (Bell 1986), have been recorded as being present in this area (Fauna Survey Unit New Zealand Wildlife Service 1985; C Ogle pers. obs. 1990). Wet areas are used seasonally by the indigenous black-fronted dotterel (Charadrius melanops) (Ogle, pers. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is an important habitat for fernbird which is regionally threatened (Bell, 1986) therefore giving the site regional importance. (Fauna Survey Unit, 1985).

Existing Threats:

Type: D

Comment: The scrublands and wetlands (described under "natural") have been damaged by cattle grazing and trampling. (Fauna Survey Unit New Zealand Wildlife Service 1985).

Human Modification and Human Use: Type:

Comment:

Existing Protection: Type:

Comment: None

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:							1. Derived info. from existing literature and databases	
Natural	<u>1</u>	2	<u>3</u>	4	5	6	7	2. Derived info, as above and field check
Cultural	1	2	3	4	5	6	7	3. Derived from existing maps and aerial photographs
Historic	1	2	3	4	5	6	7	4. Recent DOC survey including sampling and analysis
Threats	<u>1</u>	2	3	4	5	6	7	5. Recent DOC survey excluding sampling and analysis
Human Mod & Use	1	2	3	4	5	6	7	6. Experience
Protection	1	2	3	4	5	6	7	7. Expert opinion

References:

- Skipworth J, 1988. Protected Natural Areas Programme. Phase I. Manawatu Ecological Region. Unpublished report, Department of Conservation, Palmerston North.
- Bell B D, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service. Department of Internal Affairs, Wellington. Occasional Publication No. 12. 103 p.
- Fauna Survey Unit, 1985. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Unpublished data, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: SSWI - Unpublished data available of the Department of Conservation, Wanganui.
PNA - Phase I, Manawatu Ecological Region. Unpublished report, Department of Conservation, Palmerston North.

Contacts:

Fechney L - Department of Conservation, Wanganui.
Ogle, C - Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Large Unnamed Wetland

Site No: CRI 07 0022

Refiners Name: Don Ravine

Conservancy: Wanganui

Map No: S23 R23

Grid Ref: 26907 61258

Date: 21.02.90

Brief Description of Site: The site consists of an extensive (100ha+) swamp on a sandplain immediately behind a foredune. This area is used as a winter run for cattle.

Conservation Values:

Natural: B

Cultural:

Historic:

Comment: Jointed wire rush (Leptocarpus similis) is the dominant plant species, however toetoe, (Cortaderia toetoe) cabbage tree (Cordyline australis), manuka (Leptospermum scoparium), pohuehue (Muehlenbeckia complexa) and other shrubs, rushes and sedges are also present. While it could not be said that this area had a very high degree of naturalness it does compare favourably with similar areas in the Foxton Ecological District (Ref 1). Fernbirds (Bowdleria punctata vealeae) which are regionally threatened (Ref 2) have been recorded from the northern end of this area (Ref 3).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is regionally important due to the presence of the regionally threatened (Ref 12) fernbird (Ref 3).

Existing Threats:

Type: C, D

Comment: Pugging and browsing by cattle together with the invasion of exotic pasture species is threatening the naturalness of the area (Ref 1).

Human Modification and Human Use: Type: K

Comment: This area is used as a winter run for cattle (Ref 1).

Existing Protection: Type: D

Comment: The seaward edge of this zone has a protective designation of rural 'C' (coastal protection) in the Rangitikei County District Scheme (Ref 4).

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: This area requires further study.

Sources of Information:

Natural	<u>1</u>	2	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	<u>5</u>	6	7
Human Mod & Use	<u>1</u>	2	3	4	<u>5</u>	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ravine D, 1989. Protected Natural Areas Programme Phase II Foxton Ecological District. Unpublished survey card, Department of Conservation, Palmerston North.
2. Bell B D, 1986. The Conservation Status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No. 12. 103 p.
3. Department of Conservation files, Palmerston North Field Centre.
4. Rangitikei County District Scheme.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: PNA - Phase II - Foxton Ecological District, (1989). Unpublished data, Department of Conservation, Palmerston North.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Whangaehu-Turakina Dunes

Site No: CRI 07 0023

Reservers Name: Don Ravine

Conservancy: Wanganui

Map No: S23, R23

Grid Ref: 026908 61253 Date: 21.02.90

Brief Description of Site: This area consists of a 4km stretch of foredune between the Whangaehu and Turakina rivers. The northern stretch is eroding and exotic plants such as marram (*Ammophila arenaria*), and boxthorn (*Lycium ferocissimum*) dominate, while the southern stretch is aggrading and is dominated by spinifex (*Spinifex sericeus*) with marram and pingao (*Desmoschoenus spiralis*).

Conservation Values:

Natural: F B

Cultural:

Historic:

Comment: This area is a representative example of a low spinifex dominant foredune system (Ref 1). Pingao, *Desmoschoenus spiralis* = local), is also present in places (Ref 2).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is considered to be of national importance due to the presence of pingao. In this assessment the biological criteria and cultural significance of pingao have been considered.

Existing Threats:

Type: D, C, A

Comment: There is evidence of rabbit and cattle browsing on native species such as pingao (Ref 1). Invasion of exotic plants such as marram and boxthorn occurs as the dune becomes established. Erosion in the north has severely reduced the natural values (Ref 1).

Human Modification and Human Use: Type: H

Comment: Some evidence of horse riding is present and the adjoining beach is used as a walking track (Ravine pers. obs.).

Existing Protection: Type: D

Comment: The 4km of dunes has a protective zoning of rural 'C' (Coastal Protection) identified in the Rangitikei District Scheme (Ref 3).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Limited information only from survey cards

Sources of Information:

Natural	1	2	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	3	4	<u>5</u>	6	7
Human Mod & Use	1	2	3	4	<u>5</u>	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Comment:

- 1 Ravine D, 1989. Protected Natural Areas Programme. Phase II Foxton Ecological District. Unpublished survey card, Department of Conservation, Palmerston North.
- 2 Given D R, 1990. Threatened Plant List and Local Plant List. NZ Botanical Region (in draft). DSIR Land Resources, Christchurch.
- 3 Rangitikei District Scheme.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: PNA - Phase II Foxton Ecological District (1989). Unpublished data, Department of Conservation, Palmerston North.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Whangaehu River Mouth

Site No: CRI 07 0024

Reservers Name: Don Ravine

Conservancy: Wanganui

Map No: S23, R23

Grid Ref: 26893 61274

Date: 21.02.90

Brief Description of Site: This area can be described as a tidal mudflat of about 20ha bounded by sand dunes at the mouth of the Whangaehu River. Small herbfields, rushland, sedgeland and reedland are all present. Dunes have a few native species but have largely been invaded by exotic plant species. There are a few houses on the south side of the river. The area receives some recreational use.

Conservation Values:

Natural: A, B, H

Cultural:

Historic:

Comment: The low numbers of weeds and little human modification gives this area a high degree of naturalness in the tidal mud flat area (Ref 2). There is a range of bird species which use the site as a feeding and roosting area (Ref 3).

Such birds include the threatened endemic banded dotterel (Charadrius bicinctus bicinctus) and threatened indigenous royal spoonbill (Platalea leucorodia regia) (Ref 3 and 4). The adjoining salt marsh (true left bank) contains a native succulent, Chenopodium glaucum in its only known location in the region (C Ogle pers. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is nationally important due to the presence of the threatened indigenous royal spoonbill and the threatened endemic banded dotterel (Charadrius bicinctus bicinctus) (Ref 4).

Existing Threats:

Type:

Comment: Unknown.

Human Modification and Human Use: Type: H, A

Comment: There is a settlement on the south bank of the river and tracks across the dune edge with associated plantings of a few exotic species (Ref 2), some of which have become naturalised, such as a large succulent, Cotyledon orbiculata (C Ogle pers. comm.). The area is used for walking, fishing and limited recreational vehicle use. Difficult access prevents a great amount of activity by people in this area (Ref 2).

Existing Protection: Type: A, D

Comment: On the true right bank on the Whangaehu River is a Department of Conservation stewardship area (1km long), while the southern bank contains more natural values and remains unprotected. The seaward side of this area has a protective zoning of rural 'C' (Coastal protection) in the Rangitikei County District Scheme

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	<u>3</u>	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	<u>5</u>	6	7
Human Mod & Use	1	2	3	4	<u>5</u>	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Skipworth J, 1988. Protected Natural Areas Programme Phase I Manawatu Ecological Region, unpublished data, Department of Conservation, Palmerston North.
2. Ravine D, 1989. Protected Natural Areas Programme Phase II Foxton Ecological District, unpublished data, Department of Conservation, Palmerston North.
3. Ravine, D. Department of Conservation, Palmerston North.
4. Bell B D, 1986. The Conservation Status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No 12. 103 p.

Contacts

Ravine D, Department of Conservation, Palmerston North.
 Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

SSWI - unpublished data available at the Department of Conservation, Wanganui
 PNA - Phase I Manawatu Ecological District. Unpublished data, Department of Conservation, Palmerston North.
 PNA - Phase II Foxton Ecological District. Unpublished data, Department of Conservation, Palmerston North.

Other Considerations: Protection should be considered for the riparian strip.

Accompanying Maps and Photographs:

Site Name/s: Harakeke Dunes

Site No: CRI 07 0025

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: S23, R23

Grid Ref: 26887 61282

Date: 21.02.90

Brief Description of Site: This area consists of a foredune-swale-hind dune complex with dune hollows and larger sand plains. Many of these areas are ephemeral in that they are submerged with water in winter but dry during the summer. Vegetation includes grassland, sedgeland, herbfield, shrubland and treeland. The land itself is diverse and includes saltmarsh, dunes and associated sand country and marine terrace remnants. The area is natural except for the presence of marram (Ammophila arenaria), boxthorn (Lycium ferocissimum), pampas (Cortaderia selloana) and pasture weeds (Ref 1).

Conservation Values: Natural: A, B, D, E, F, H Cultural: Historic: B

Despite the presence of exotics in some areas, the area shows a high degree of naturalness particularly with respect to the herbfields (Ref 1). This area is nationally important due to the presence of one of two main populations of the endangered endemic (Ref 10) herb Sebaea ovata, (Ref 6). Other plant species present at this site include the vulnerable (Ref 10) herb (Mazus pumilio), indeterminate (Ref 10) Libertia peregrinans and Pimelea arenaria and pingao (Desmoschoenus spiralis = local) (Ref 10). Even though the dune vegetation has been modified by the presence of pampas, marram, cattle, rabbits and recreational vehicles this area still has a representative cross-section of native communities (Ref 1). Marine terrace remnants are also present at this site and these are the furthestest south in the Foxton Ecological District (Ref 1). This area has only recently been studied but its extent, representativeness and the presence of rare species would rate it of national importance (Ref 1, 2, 5).

Within this site two middens have been identified (Ref 9). On the other side of the river an extensive system of coastal agricultural sites exist. These include pits and terraces including food storage pits and borrow pits (Ref 9).

The area provides good habitat for the North Island fernbird (Bowdleria punctata vealeae) which is a regionally threatened species (Ref 11). Also present are the Australasian harrier (Circus approximans) which is known to breed in rushes at this site and the southern black-backed gull (Larus dominicanus). The area also receives seasonal use by waders, including the black-fronted dotterel (Charadrius melanops) and is probably important for native invertebrates, including insects and arachnids (Ref 6).

Site Importance: International National Regional Local Unknown

Comment: This area is internationally important due to the presence of endangered plant species Sebaea ovata (Ref 10) and the regionally threatened fernbird (Ref 11). This area is important as large areas of native dune vegetation are largely depleted nationally.

Existing Threats: Type: C, D, K

Comment: Exotic plants are causing problems. Marram threatens the naturalness of the area while pampas and other exotic grasses are present on the sandplains and in dune hollows. Boxthorn is also present throughout the area. Cattle browse shrubs and pug herbfields of S. ovata and P. arenaria.

Modification and Human Use: Type: E, H

Comment: Minimal deliberate modification has occurred. A gas pipeline and associated rough service road exist in the area. Game hunters use this area as do recreational vehicle users.

Existing Protection: Type: A D

Comment: This area is currently crown owned land administered by the Department of Conservation. However, it may be desirable to recommend reclassification on completion of the Foxton Ecological District PNA survey. A rural 'C' zone in the Rangitikei County District Scheme covers duneland on the seaward side of Santoft Forest (Ref 7). A coastal protection zone exists north of the river mouth under the Wanganui county district scheme (Ref 8).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ravine D, 1989 - Protected Natural Areas Programme. Phase II Foxton Ecological District survey cards. Unpublished data held at Department of Conservation Palmerston North Field Centre.
2. Ogle C, 1990. List of vascular plants on Harakeke Block dunes, northwest of Whangaehu River Mouth. Wanganui Plant List 2 (unpublished). Department of Conservation 7p.
3. Wanganui Regional Museum Survey, Unpublished report, Wanganui Regional Museum.
4. New Zealand Archaeological Association file reports
5. Ogle, C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
6. Ogle, 1989. *Sebaea ovata* (Gentianaceae) and its habitat near Wanganui. Wellington Botanical Society Bulletin 45: 92-99.
7. Rangitikei County District Scheme.
8. Wanganui County District Scheme.
9. New Zealand Archaeological Association. Site Record Forms. Department of Conservation. No. R23 1, 2, 5 - 27. S 23 13-21, 26, 27, 39-55.
10. Given D, 1990. Threatened plant list and local plant list - New Zealand Botanical Regional DSIR Land Resources, Christchurch.
11. Bell B, 1986. The Conservation status of New Zealand wildlife New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional publication No. 12: 103p.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comments: Historic Places Inventory (1985) Waimarino, Waitotara and Wanganui Counties, Site No.'s R 23 1 and 2. S 23 13-21.

New Zealand Archaeological Association Records.

PNA - Foxton Ecological District - Phase I. Unpublished data, Department of Conservation, Palmerston North.

Other Considerations: Nearby pine forest may allow self-seeding pines to establish and offroad vehicles may damage dune vegetation in this area.

Accompanying Maps and Photographs:

Site Name/s: Pauri Cliffs

Site No: CRI 07 0026

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: R22

Grid Ref: 26868 61311

Date: 22.02.90

Brief Description of Site: The site is characterised by tall cliffs and has two southern black-backed gull (Larus dominicanus) colonies at different places on the clifftops. The exact area of this site is unknown.

Conservation Values:

Natural: C

Cultural:

Historic: B

Comment: This is an important breeding and roosting area for southern black-backed gulls (B Halsey pers. comm.). The remains of a hangi are situated on an eroded dune at the end of pumping station road. Several fire cracked rocks and some crushed pipi and tuatua shells have been uncovered (New Zealand Archaeological Association).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of local importance as a breeding ground for southern black-backed gulls. There are likely to be other biological values in the area but the site has not been assessed.

Existing Threats:

Type: D, C, G

Comment: Farmed animals such as cattle are present (B Halsey pers. comm). Shore stabilisation works and some invasion by exotic plants affect the area. The historic sites area is exposed and reburied by shifting sand dunes.

Human Modification and Human Use: Type: H

Comment: Shorebased recreation such as trail bikes, walking and horseriding also occur in this area (B Halsey pers. comm.).

Existing Protection: Type: A D

Comment: An area running from Kaitoke Stream to beyond Wilsons Bluff is stewardship land administered by the Department of Conservation covers approximately 95.8 ha. There is also a coastal protection zone covering this area under the Wanganui County District Scheme.

Availability of Information:

Natural	1	2	<u>3</u>
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	<u>3</u>	4	5	<u>6</u>	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Treaties	1	2	3	4	5	<u>6</u>	7
Land Use Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Land tenure maps Conservancy Office, Wanganui.
- Wanganui Regional Museum Archaeology sources.
- New Zealand Archaeological Association Site Reports Wanganui Regional Museum.

Contacts:

- Fechney L - Department of Conservation, Wanganui.
- Halsey B - Department of Conservation, Wanganui Field Centre.
- Wanganui County District Scheme.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Kaitoke

Site No: CRI 07 0027

Recorders Name: Leonie Fehney

Conservancy: Wanganui

Map No: R22

Grid Ref: 26850 61335

Date: 22.02.90

Brief Description of Site: The northern part of this area consists of a sandy beach and associated sand dunes. However, the southern half consists of vertical cliffs, mostly composed of mudstone, with some beds of consolidated sand and gravel. There is a sparse native vegetation cover on the damp surfaces. The herb, Epilobium komarovianum is present at this site and is not otherwise known on the coast south of Wanganui (Ogle pers. comm.).

Conservation Values:

Natural: A, C, D, E, F

Cultural:

Historic: B

Comment: The area has a high degree of naturalness and provides habitat for wildlife and is a breeding area for southern black-backed gulls (Larus dominicanus). Pingao (Desmoschoenus spiralis = local) (Given, 1990), is present in some places (B Halsey pers. comm.). The mudstone cliffs are the only ones south of the Wanganui River on the North Island West Coast (but are much better represented between Wanganui and Hawera). Wilsons Bluff is at the end of a private road and is regionally important because it represents a fossiliferous Ngarino formation, and contains fossil bivalves and gastropods (Beu and Edwards 1984). The area is a fragile system and wind erosion is accelerated by the high recreational use the area receives from off-road vehicles and trail bikes.

Within this area there are two separate historical sites in which hangi remains have been identified. The remains to the north east of the natural gas station consist of three hangi sites and the material is scattered widely over the exposed surface of the dune. There does not appear to be any midden associated with the hangi. The other site to the north, consists of fire-cracked rocks scattered over approximately 20 square metres (New Zealand Archaeological Association).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The mudstone cliffs which represent a fossiliferous Ngarino formation, are regionally important geologically (Geopreservation Inventory rating 'C'). The rest of this site is probably only of local importance.

Existing Threats:

Type: C, D, K, G

Comment: Recreation, in the form of trail bikes and 4 wheelers are a continual problem in this area (B Halsey pers. comm.). These vehicles continually disturb the plant life on the dunes and expose the sand to erosion by the wind. (The mud cliffs are naturally unstable and sea level rise could also serve to potentially accelerate erosion). Cattle pose a problem in some places where they escape into the dunes from the adjoining farm and cause considerable damage to the dune ecosystem (B Halsey pers. comm.). Rabbits also cause problems where the population is high (B Halsey pers. comm.). The sewage outfall to the north may degrade the quality of the water in this area.

Human Modification and Human Use: Type: H, E

Comment: The beach is popular for trial bikes, horse riding and walking (B Halsey pers. comm.). The Kapuni pipeline is also situated within this area. The Wanganui sewerage outfall is another human modification and use within this area.

Existing Protection: Type: A, D,

Comment: This area is stewardship land administered by the Department of Conservation. The coastal strip for three quarters of this area is a Section 58 strip under the Land Act 1948. The area is also defined as a coastal protection zone in the Wanganui District Scheme and covers a strip of coastal foredunes extending southwards from the Wanganui River to the Whangaehu River.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: The mudstone cliffs are well documented in the Geopreservation Inventory, however the rest of the area has only limited information.

Sources of Information:

Natural	<u>1</u>	2	<u>3</u>	4	5	<u>6</u>	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Quinlan A G and Edwards A R, 1984. New Zealand Pleistocene and late Pliocene glacio-eustatic cycles. Quaternary Geology Paleogeography Paleocology, Paleoclimatology 46: 119-142.
- Coastal Reserves Investigation Department of Lands and Survey, Wellington.
- Land Tenure maps, Department of Conservation, Wanganui.
- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Wanganui County District Scheme
- New Zealand Archaeological Association Records - Wanganui Regional Museum.

Contacts:

- Fechney L - Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Wanganui River

Site No: CRI 07 0028

Recorders Name: June Brookes

Conservancy: Wanganui

Map No: R22

Grid Ref: 26823 61364

Date: 22.02.90

Brief Description of Site: This area consists of low sand dunes dividing the river and the sea. The exact area of this historic site is unknown.

Conservation Values:

Natural:

Cultural:

Historic: B

Comment: Two fishing pa have been identified on the banks of the Wanganui River, the Wahipuna and the Kaiwharawhara pa (Mitchell-Anyon 1979).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The fishing pa are of local importance. It should be noted that historic sites have not been assessed using national criteria because these have not been developed to date. There is likely to be biological values in the area but this area has not been field-checked recently.

Existing Threats:

Type: A, K

Comment: Erosion by wind and inappropriate recreational use of the area (for example trail bikes) may pose a threat to this area (L. Fechny pers. comm.)..

Human Modification and Human Use: Type: H

Comment: This area falls within a larger area which is used for shorebased recreation which includes trail bikes, walking and other such activities.

Existing Protection: Type: D

Comment: This area is a coastal protection zone under the Wanganui County District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	<u>3</u>	4	5	6	7
Plants	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Mitchell-Anyon J. (1979) Wanganui Regional Historic Sites. Unpublished map. Department of Conservation, Wanganui.
- Wanganui County District Scheme

Contacts

- Brookes, June. Department of Conservation, Wanganui
- Fechny, L. Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Landguard Bluff

Site No: CRI 07 0029

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26818 61368

Date: 22.02.90

Brief Description of Site: This area consists of a river cut sand dune.

Conservation Values: Natural: E, G, H Cultural: A, D Historic:

Comment: This area is a nationally important river cut Pleistocene fossiliferous sedimentary sequence which contains bivalve and gastropod fossils (Fleming 1953; Beu et al 1986). Lahar material has also been identified at or very near this site (Vince Neill pers. comm).

A small creek in this vicinity may have a special significance to the Maori people, however the exact details are unknown (Tupohu Kamatua pers. comm.).

Site Importance: International National Regional Local Unknown

Comment: This site is rated 'B' for geological importance in the Geopreservation Inventory, thus making this site of national importance. Further investigation of the natural values is required in this area.

Existing Threats: Type:

Comment: Unknown

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type:

Comment: None

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	<u>7</u>
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Hum. Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Reference

- Beu A G, Edwards A R, Pillians B J, 1986. Young Geology of Wanganui Basin. Geological Society of New Zealand Miscellaneous Publication 35B:C2.
- Fleming C A 1953. Geology of Wanganui Subdivision. New Zealand Geological Survey Bulletin 52. DSIR Wellington.

Contacts:

- Vince Neill, Senior Lecturer, Massey University, Palmerston North

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | |
| 6. Other | 7. None | |

Comment:

Geopreservation Inventory record number FOS301 1986

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Wanganui River Estuary

Site No: CRI 07 0030

Recorders Name: Leonie Fehney

Conservancy: Wanganui

Map No: R22

Grid Ref: 26825 61375

Date: 22.02.90

Brief Description of Site: This area is the estuary of the Wanganui River and is characterised by tidal mudflats which are exposed at low tide. The northern bank is highly modified by industry and urbanisation. A few dunes and tidal flats remain on the south bank of the river. Corliss Island is situated at the top of this area and has saltmarsh fringes, although the island has been modified by pines and rank grasses (Ogle pers. comm.).

Conservation Values: Natural: B, C, H Cultural: A, D Historic:

Comment: This area is an important wader roosting and feeding site. Fifty two different bird species have been recorded on the Wanganui River estuary including eastern bar-tailed godwits (Limosa lapponica baueri), threatened wrybills (Anarhynchus frontalis), knots (Calidris canutus canutus), pied stilts (Himantopus himantopus leucocephalus) and the royal spoonbill (Platalea leucorodia regia) (G Randle pers. comm, Bell 1986.). Up to seven royal spoonbills were recorded on the estuary in December 1989 (G. Randle pers. comm.). The saltmarsh area around Corliss Island appears to be the best saltmarsh in the Wanganui River estuary and is probably the most extensive between the Whangaehu and Waitotara Rivers (C Ogle pers. obs.). The estuary is an important breeding and nursery ground for many fish species including two species of flounder; the black flounder (Rhombosolea retiara) and the yellow-belly flounder (Rhombosolea leporina). Galaxiid species use the estuary as a passage to spawning grounds further upstream (Strickland et al. 1982).

The Wanganui River has a special cultural meaning to the Maori people, in that the river is the 'tupuna' (being the blood of ancestors) spilt, when in mythology Taranaki was banished from the region by Tongariro. (Wanganui Wastewater Working Party 1990).

In pre-European times the Wanganui River was primarily used by Maori as a source of food and transportation. Pollution of water by human and industrial waste is not acceptable to the Maori people as it degrades the water quality so that the standard is not suitable for wetfish, shellfish or other forms of aquatic life that are relied on by the Maori as a supplementary food source (Wanganui Wastewater Working Party 1990).

Site Importance: International National Regional Local Unknown

Comment: This estuarine site is nationally important because threatened royal spoonbill (Platalea leucorodia regia) (Bell, 1986) regularly visit here. The botanical values of the Wanganui Estuary are possibly of regional importance (C. Ogle pers comm.). Corliss Island is only of local importance, as although estuarine vegetation is rare in the Wanganui Conservancy, this is not the best piece. The cultural significance of this site to the Maori people has not been assessed.

Existing Threats: Type: E

Comment: River pollution is a major threat as there are approximately 56 city sewerage outfalls entering the river. The sewage outfalls are gradually being collected in a collecting station and then discharged out to sea off the Wanganui River mouth. A lot of industry has developed around the edge of the river which in the past often discharged toxic effluent and waste straight into the river.

Human Modification and Human Use: Type: B, C, D, E, H, I

Comment: Many storm water outfalls exist on the river which ultimately impact on the estuary. Urban, industrial and agricultural land development and associated runoff all pose threats to the quality of the river water. A commercial port operates at the mouth of the Wanganui River and a small boat marina exists within the port area. Recreational use of the river is high. The Wanganui sailing club is based on the river, and sail boat activities occur in the estuary. A number of reclamations and outfall pipes are also present within this site.

Existing Protection: Type: C

Comment: Esplanade reserves administered by the Wanganui District Council have been identified on the south bank of the river in isolated strips bounding a small part of the estuarine area.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment

- Comment: The New Zealand Wildlife Service and the local branch of the Ornithological society have carried out various surveys of the avifauna of the estuary.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bell B 1986. The conservation status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs - Occasional Publication No. 12. Wellington 103p.
- Strickland R, Teirney L, Cudby E, 1982. Submission on the Wanganui River Flow Management Plan. Fisheries Environmental Report No. 24. Ministry of Agriculture and Fisheries, Wellington.
- Wanganui Wastewater Working Party 1990. Interim report to the Wanganui District Council on the recommended scheme for wastewater treatment and disposal for the city of Wanganui. Unpublished report. Wanganui District Council.

Contacts:

- Ogle, C. Conservancy Advisory Scientist, Department of Conservation, Wanganui
- Fechney, L. Department of Conservation, Wanganui
- Randle, R. Regional Representative for Ornithological Society of New Zealand.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- SSWI Unpublished Data held at Department of Conservation, Wanganui.
 - WERI database: Wanganui River Mouth Flats, 1985, Regional Significance (Catchment Authority).
-

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Wanganui River Mouth

Site No: CRI 07 0031

Recorders Name: June Brookes

Conservancy: Wanganui

Map No: R22

Grid Ref: 26800 61379

Date: 23.02.90

Brief Description of Site: This area can be broadly described as the Wanganui River mouth. The southern (true left bank) of the river consists of low sand dunes while the right bank has sand dunes at the mouth that become developed towards the city. The exact area of this site is unknown.

Conservation Values:

Natural:

Cultural: A, D

Historic: A, B

Comment: This area has several historic values within it. Patapu Pa, an historic fishing pa is situated on the true left bank of the river (Mitchell-Anyon, 1979). To the south of this pa lies the site of an old quarantine area, beside which is the grave of a small-pox victim (Smart & Bates, 1972). On the true right bank of the river, but inland from the river amongst the dune country leading onto the beach, is the site of another fishing pa, Pungarehu (Mitchell-Anyon 1979). On the bank of the river upstream is the Castlecliff redoubt which has now been converted into a signal station (Smart & Bates, 1972).

The Wanganui river has a special cultural meaning to the Maori people in that the river is the 'Tupuna' (the blood of ancestors) spilt when, in mythology, Taranaki was banished from the region by Tongariro. (Wanganui Wastewater Working Party 1990).

In pre-European times the Wanganui River was primarily used by Maori as a source for food and transportation. Pollution of water by human and industrial waste is not acceptable to the Maori people as it degrades the water quality so that the standard is not suitable for wetfish, shellfish or other forms of aquatic life that are relied on by the Maori as a supplementary food source (Wanganui Wastewater Working Party 1990).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is probably of local importance. The cultural significance of this site to the Maori people, has not been assessed.

Existing Threats:

Type: A, K

Comment: These sites are subject to wind erosion especially those to the south of the river. Incompatible recreational uses, that is trail bikes and other off road vehicles may also pose a threat to the continued existence of these historic sites.

Human Modification and Human Use: Type: H

Comment: These sites are part of a large area identified as being used for shorebased recreation, which includes trail bikes, walking and horseriding.

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	<u>2</u>	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	3

- 1. Well documented
- 2. Limited information (general)
- 3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	<u>7</u>
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	<u>7</u>
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	1	2	3	4	5	6	7

- 1. Derived info. from existing literature and databases
- 2. Derived info, as above and field check
- 3. Derived from existing maps and aerial photographs
- 4. Recent DOC survey including sampling and analysis
- 5. Recent DOC survey excluding sampling and analysis
- 6. Experience
- 7. Expert opinion

References

- Mitchell-Anyon J. 1979. Wanganui Region Historic Sites unpublished map, Department of Conservation, Wanganui.
- Smart M J G and Bates A P 1972. The Wanganui Story Wanganui Newspapers.
- Wanganui Wastewater Working Party 1990. Interim report to the Wanganui District Council on the recommended scheme for Wastewater treatment and disposal for the city of Wanganui. Unpublished report Wanganui District Council.

Contacts

Kirk A, Local Historian

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| <u>7. None</u> | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Castlecliff Dunes

Site No: CRI 07 0032

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26790 61387

Date: 22.02.90

Brief Description of Site: This area consists of aggrading sand dunes which have rapidly built-up due to an accumulation of sand behind the Wanganui River groyne. The exact area of this site is unknown.

Conservation Values:

Natural: A, B, D, F, H

Cultural:

Historic:

Comment: This area consists of native plant communities some of which are threatened. The plant species present are typical of sand dunes and include excellent Spinifex sericeus swards on foredunes. Sparse pingao (Desmoschoenus spiralis = local) is also present, as is the sand daphne Pimelea arenaria which is an indeterminate species (Given 1990). The sand dune coprosma (Coprosma acerosa) has also been noted in this location (Ogle, 1988). This area is also important geologically as it is part of the nationally important Pliocene to Pleistocene fossiliferous sedimentary sequence which extends from Castlecliff to Nukumarū (Fleming 1953, Beu and Edwards 1984).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The Pliocene to Pleistocene fossiliferous sedimentary sequence present here is nationally important geologically (Geopreservation Inventory rating 'B'). The plant communities have been degraded so the area only warrants local importance botanically (pers. obs.).

Existing Threats:

Type: K, J, C

Comment: The area suffers from high recreational use such as off road vehicles and horse riding. These activities threaten the fragile sand dune native plant communities (pers. obs.). Other threats are that rubbish is dumped in the foredunes and weeds threaten the existence of native species (pers. obs.).

Human Modification and Human Use: Type: H

Comment: Due to the close proximity to the good access points and a major urban area, this area is popular with a wide range of recreational users (Friends of the Shoreline 1988). Shorebased recreation in the form of horse riding, off road vehicles, walking, fossicking and pinicking all occur in this area.

Existing Protection: Type: C

Comment: This area is part of a recreation reserve of approximately 25 ha administered by the Wanganui District Council.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	<u>5</u>	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Beu A G, and Edwards A R, 1984. New Zealand Pleistocene and late Pliocene glacio-eustatic cycles. Paleogeography Paleocology Plaeoclimatology 46:19-142.
- Fleming C A, 1953. Geology of the Wanganui Subdivision. New Zealand Geological Survey Bulletin 52.
- Friends of the Shoreline, 1988. Recreational Beach Survey over the Summer of 1987/88. Unpublished report.
- Given, D R 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft). Land Resources - DSIR, Christchurch.
- Ogle C, 1988 Whanganui Plant List 4. Vascular Plants of Castlecliff Beach Reserve, Wanganui. Unpublished report. Department of Conservation, Wanganui. 4p.

Contacts:

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory record no. FOS 302, 1986.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Hind dune swamp

Site No: CRI 07 0033

Responsible Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26785 61398

Date: 22.02.90

Brief Description of Site: This area is located between the dune and the foot of the terrace scarp. Within these dune hollows is dense swamp vegetation.

Conservation Values: Natural: A, B, D, E, F Cultural: Historic:

Comment: This area has representative vegetation of deep coastal swamp which includes flax (Phormium tenax), raupo (Typha orientalis), and sedge (Carex secta) (Ogle, 1988). This type of swamp is very uncommon in the Wanganui Conservancy (pers. obs.)

Site Importance: International National Regional Local Unknown

Comment: This type of habitat was probably common in the past but is now very rare (for example the Balgownie swamp is now a rubbish dump). A few degraded remnants of deep coastal swamp vegetation in the grazed dunes can be found further inland, and there is a good example near the Waitotara River Mouth. Thus this coastal swamp vegetation is of regional importance (pers. obs.).

Existing Threats: Type: C J

Comment: A threat to this area is the encroachment of weeds, such as Japanese honeysuckle, willows, climbing dock and arum lily, amongst the swamp vegetation. This is aggravated by the dumping of garden rubbish which frequently occurs in this location (pers. obs.).

Human Modification and Human Use: Type: H

Comment: Tracks and boardwalks leading to the beach from the houses on the cliffs have modified this area.

Existing Protection: Type: C

Comment: This area is part of the recreation reserve (4.8 ha) administered by the Wanganui District Council (Wanganui District Scheme 1989). Much of it, however, lies on private land.

Availability of Information:

Natural	1	2	3	1. Well documented
Cultural	1	2	3	2. Limited information (general)
Historic	1	2	3	3. Little information (if any)
Threats	1	2	3	
Human Mod. & Use	1	2	3	
Protection	1	2	3	

Cost:

Sources of Information:

Natural	1	<u>2</u>	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	<u>6</u>	<u>7</u>
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Ogle C. 1988. Wanganui Plant List 4. Vascular plants of Castlecliff Beach Reserve, Wanganui. Unpublished report. Department of Conservation, Wanganui.
- Wanganui District Planning Scheme Review 1989.

Contacts:

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Castlecliff-Mowhanau Coast

Site No: CRI 07 0034

Responsible Name: Leonie Fechney

Conservancy: Wanganui

Map No: R22

Grid Ref: 26790 61424

Date: 22.02.90

Brief Description of Site: This area consists of steep sedimentary cliffs (mostly mudstone) with local areas of accumulated sand dune at the base of the cliffs. This is especially prominent at the south-eastern end, ie Castlecliff. The native sand binder Spinifex sericeus and, small patches of pingao (Desmoschoenus spiralis = local) (Given 1990) are found on the dunes, while native herbs exist on the cliff faces. Cliffs that have slumped have been recolonised mostly with native plants from adjoining cliff faces (C Ogle pers comm). In most places farmland runs to the edge of the cliffs, some parts of which are fenced.

Conservation Values:

Natural: A, B, D, E, F, G, H

Cultural:

Historic: A, B

Comment: This site has a high natural value due to the presence of a nationally rare plant (Given 1990), the mat daisy, Leptinella (=Cotula) dispersa subsp rupestris whose presence was noted here by Lloyd (1972). Leptinella dispersa subsp rupestris is only found in one other place in New Zealand outside of the Wanganui Conservancy so this rare plant is of national importance (Ogle pers. comm.). This plant is also of scientific value because only single sex populations have been found, hence this species and this area are important for genetic research (Lloyd pers. comm.).

Pingao, and the herb Linum monogynum which is locally rare can be found here (Ogle pers. comm.). The area is nationally important geologically as an important Pliocene to Pleistocene fossiliferous sedimentary sequence with bivalve and gastropod fossils. The site is identified as running from Nukumaru beach to Castlecliff (Fleming 1953; Beu and Edwards, 1984; Beu et al 1986).

The area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Inland of this area is a pa site and the remains of a redoubt located at the end of Peat road in the Mowhanau Stream Valley. The redoubt, known as Alexanders redoubt, is well preserved on the cliff edge (NZ Archaeological Association Records). The local bowling club at Mowhanau beach settlement is situated over a pa site (Kirk pers. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is also nationally important due to the presence of the rare mat daisy (Leptinella (=Cotula) dispersa subsp rupestris) (Given 1990). This area has geological features which are both internationally and nationally important (Geopreservation Inventory rating of A and B).

Existing Threats:

Type: C, K

Comment: The dunes are used by off road vehicles which damage the vegetation and accelerate wind erosion (C Ogle pers. comm). The native plant communities present at this site are also threatened by the invasion of weeds which serve to out-compete the native plants (Colin Ogle pers. comm.)

Human Modification and Human Use: Type: H,

Comment: The area is used for shoreland based recreation such as swimming, fishing, walking, trailbike riding and orseriding (pers obs.).

Existing Protection: Type: A C

Comment: The southern half of this area is protected under Section 58 of the Land Act 1948, while the northern strip is an esplanade reserve.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

This area is well documented geologically, but there is limited information on the area's botanical values.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Beu A G, Edwards A R, Pillans B J 1986. Young geology of the Wanganui Basin. Geological Society of New Zealand. Miscellaneous Publication 35B:C2
- Beu A G, Edwards A R. 1984. New Zealand Pleistocene and late Pliocene glacio-eustatic cycles. Paleogeography, Paleoclimatology 46: 119-142.
- Chappel J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Fleming C A, 1953. Geology of the Wanganui Subdivision. New Zealand Geological Survey Bulletin 52. DSIR Wellington.
- Given D R, 1990. Threatened Plant List and Local Plant List New Zealand Botanical Region (in draft). Land Resources, DSIR, Christchurch.
- Lloyd D G, 1972. A revision of the New Zealand Sub Antarctic and South American species of Cotula, Section Leptinella. New Zealand Journal of Botany 10: 277-372.
- New Zealand Archaeological Association Site Record forms, Department of Conservation, Wellington, Record No. R22-145.
- Pillons B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contacts:

- Fechny L, Department of Conservation, Wanganui
- Kirk A, local historian, 50 Somerset Road, Wanganui
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | |
| 6. <u>Other</u> | 7. None | |

Comment:

- Geopreservation record no FOS 302 1986. Record No. DEF 173 1983.
- NZ Archaeological Association Records Site No. R22-145.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Saltmarsh, Kai Iwi Stream

Site No: CRI 07 0035

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26722 61452

Date: 23.02.90

Brief Description of Site: The area is very small and consists of a saltmarsh in the Kai Iwi Stream. The area covers approximately 0.5 hectares.

Conservation Values:

Natural: A, B, D, F, H

Cultural:

Historic:

Comment: The area depicted consists of one of the most intact saltmarshes in the Wanganui Conservancy. The area is dominated by a sedgeland consisting of sea clubrush (Bolboschoenus caldwellii) and three square (Schoenoplectus pungens) (pers. obs). Other small herbs such as arrow grass (Triglochin striatum) and Lilaeopsis novae-zelandiae are also present (Ogle 1989b). The area is an excellent representative example of saltmarsh vegetation (pers ob.).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui and is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A). Botanically, this site is regionally important for representative marsh vegetation (pers. obs.).

Existing Threats:

Type: C E

Comment: The threat to this area is invasion by weeds especially exotic grasses (pers. obs.). The Kai Iwi stream is periodically polluted by filtered effluent which is discharged into the stream (B Halsey pers. comm.).

Human Modification and Human Use: Type: H

Comment: The adjacent foreshore area is used for shoreland based recreation such as walking.

Existing Protection: Type:

Comment:

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- C, Ogle. 1989b Whanganui plant list 6. Vascular plants of the coast from Castlecliff to Hawera. Unpublished report. Department of Conservation, Wanganui.

Contact:

- Halsey B, Department of Conservation - Whanganui Field Centre.
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Kai Iwi Stream Cliff

Site No: CRI 07 0036

Recorder's Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26722 614453

Date: 23.02.90

Brief Description of Site: This area can be described as a degraded forest remnant on the true right bank of the Kai Iwi Stream approximately 300m upstream from the mouth. The terrain is steep to very steep and the area described covers approximately 0.5 ha.

Conservation Values:

Natural: B, D, F, H

Cultural:

Historic:

Comment: This area is representative of coastal forest which was probably quite widespread in the past (pers. obs.). The forest vegetation is dominated by ngaio (Myoporum laetum), mahoe (Melicytus ramiflorus), with cabbage trees (Cordyline australis), flax (Phormium tenax), toetoe (Cortaderia fulvida) and Blechnum sp. [unnamed, B. capense agg.] (kiokio) ferns (pers. obs.). This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A). Botanically it is of regional importance as only a small number of this type of habitat i.e. coastal forest remains (pers. obs.).

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comments:

Sources of Information:

Natural	1	2	3	4	5	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	1	2	3	4	5	6	<u>7</u>
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contacts

- Neilson, G Local Kaumatua Nga Rauru Iwi
- Ogle, C Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory record no DEF 173 1983

Other Considerations: Grazing presently prevents regeneration of forest vegetation (pers. ob.).

Accompanying Maps and Photographs:

Site Name/s: Kai Iwi Stream - Nukumarū

Site No: CRI 07 0037

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26670 61471

Date: 23.02.90

Brief Description of Site: This area consists of steep sedimentary (mostly mudstone) cliffs. Native herbs are found on the cliff faces. Small areas of dune sand are found generally at stream mouths and are especially prominent at the mouth of the the Kai Iwi and Ototoka Streams.

Conservation Values:

Natural: A, B, D, E, F, G, H

Cultural: A, D

Historic: B, C

Comment: This area has vegetation representative of coastal cliffs (pers obs). The presence of a threatened plant species Leptinella (=Cotula) dispersa subsp rupestris (male plants only) and pingao Desmoschoenus spiralis = local) has also been noted (Given 1990) . Because of the dwindling habitat in which Leptinella dispersa is present, this area also has a high degree of naturalness. These coastal cliffs are eroding hence it is labelled as a fragile/environmentally sensitive area. Leptinella dispersa subsp rupestris is only found in one other place in New Zealand outside of the Wanganui Conservancy and because of this it is thought to be of national importance (pers obs). It is also of scientific value because only single sex populations have been found, hence this species and this area are important for genetic research (Lloyd pers comm).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983). This site is also part of the greater area identified in the Geopreservation Inventory that runs from the Nukumarū beach to Castlecliff and is nationally important as a Pliocene to Pleistocene fossiliferous sedimentary sequence (Fleming 1953, Beu and Edwards 1984, Beu et al 1986).

At the Okehu Stream mouth on top of the cliffs just north of Kai Iwi is a site with 3 circular pits, 2.5 to 3.5m diameter and 20 to 60cm deep. A midden site has been identified 75m from the mouth of the Ototoka Stream (NZAA site report). The midden consists of a layer containing small cockle and mussel shells. Another historic site close-by is the site of a flax mill built circa 1870, which is still visible today (A Kirk pers comm).

The area is spiritually and traditionally important to the Nga Rauru Iwi

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site has national importance with regard to the presence of the threatened Leptinella dispersa subsp rupestris (Given 1990) and is internationally and nationally important geologically (Geopreservation Inventory, rating A and B).

Existing Threats:

Type: A C D K

Comment: The cliffs are mostly self protecting however the dunes are threatened by trampling, off road vehicles, the invasion of marram and other weeds, and by erosion (pers obs). The pit sites are threatened by cattle trampling. The midden is located next to a well used walking track and is slowly eroding onto the track (NZAA site report).

Human Modification and Human Use: Type: H

Comment: This area is popular especially around good access points for shorebased recreation such as swimming, walking, and off road vehicles.

Existing Protection: Type: D

Comment: The area has a protective zoning that is described as rural D1 in the Waitotara County District Scheme. This protection covers 35m of land inshore from the top of the cliffs or 30m inland from the toe of the foredune. Behind this is a rural D2 zone under the Waitotara County District Scheme

Availability of Information:

				1. Well documented
Natural	1	2	3	2. Limited information (general)
Cultural	1	2	3	3. Little information (if any)
Historic	1	2	3	
Threats	1	2	3	
Human Mod. & Use	1	2	3	
Protection	1	2	3	

Comment: Some plants are well known but a detailed botanical survey of the whole strip is still required.

Sources of Information:

								1. Derived info. from existing literature and databases
Natural	1	2	3	4	5	6	7	2. Derived info, as above and field check
Cultural	1	2	3	4	5	6	7	3. Derived from existing maps and aerial photographs
Historic	1	2	3	4	5	6	7	4. Recent DOC survey including sampling and analysis
Threats	1	2	3	4	5	6	7	5. Recent DOC survey excluding sampling and analysis
Human Mod & Use	1	2	3	4	5	6	7	6. Experience
Protection	1	2	3	4	5	6	7	7. Expert opinion

References:

- Beu, A G and Edwards A R, 1984. New Zealand Pleistocene and late Pliocene glacio-eustatic cycles. Paleogeography, Paleocology, Paleoclimatology 46: 119-142.
- Beu A G, Edwards A R, Pillians B J, 1986. Young geology of the Wanganui Basin. Geological Society of New Zealand. Misc. Pub. 35B:C2.
- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Given D R, 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft). Land Resources DSIR Christchurch.
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297
- Waitotara County District Scheme

Contacts:

- Kirk A, Local historian, 50 Somerset Road, Wanganui
- Lloyd D C, Senior Lecturer Botany, University of Canterbury, Christchurch.
- New Zealand Archaeological Association
- Nga Raura Iwi
- Neilson G, 36 Ruapehu Street, Wanganui
- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | |
| 6. Other | 7. None | |

Comment: Geopreservation Inventory Record number FOS 302 1975. DEF 173 1983.

Other Considerations: This site is part of a large area of iron sands prospecting licence held by United Resources Limited.

Accompanying Maps and Photographs:

Site Name/s: Lake Marahau

Site No: CRI 07 0038

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: R22

Grid Ref: 26658 61495

Date: 23.02.90

Brief Description of Site: The area consists of a dune lake which is approximately 25 ha in size. The lake is approximately 90% open water, 5% raupo (Typha orientalis), 5% grass and Juncus sp. (Hutchinson pers. comm.). High numbers of waterfowl species have been noted on this lake.

Conservation Values:

Natural: C,

Cultural:

Historic:

Comment: Large numbers of waterfowl species including paradise shelduck (Tadorna variegata), little shag (Phalacrocorax melanoleucus), black shag (Phalacrocorax carbo), welcome swallow (Hirundo tahitica neoxena), grey duck (Anas superciliosa), mallard (Anas platyrhynchos), and black swan (Cygnus atratus) use this area (Fauna Survey Unit 1985).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This lake has been classified as nationally significant in Wetlands of Ecological and Representative Importance (WERI).

Existing Threats:

Type:

Comment: Unknown.

Human Modification and Human Use: Type: H

Comment: This area is used for recreational waterfowl hunting.

Existing Protection: Type:

Comment: Private ownership.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Contacts:

- Fauna Survey Unit, 1985 NZ Wildlife Service, Department of Internal Affairs (SSWI). Unpublished data available at Department of Conservation, Wanganui
- Marsh N. Department of Conservation, Whanganui Field Centre.
- Hutchinson W. Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- WERI : Lake Marahau, Date of Survey: 1985, Classification : nationally significant.
- SSWI : unpublished data available from the Department of Conservation, Wanganui.

Other Considerations: This area is part of a larger area over which there is an iron sand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Waitotara/Wainu (Nukumar Domain)

Site No: CRI 07 0039

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: R22

Grid Ref: 26585 61480

Date: 23.02.90

Brief Description of Site: The area consists of coastal dunes with sandy beaches and limestone rock platforms and outcrops. In this area the intertidal reefs are quite expansive and are unique on a coast which is predominantly sand. The Waitotara River Mouth is located at the western end of this area. The Nukumar Domain covers a large area (725ha) of this site. The area is leased for grazing but public access to the beach is permitted (Department of Lands and Survey 1986).

Conservation Values: Natural: C, E. Cultural: A, D Historic: B

Comment: In this area high dunes back on to an uplifted marine plain. There is a hind dune wetland near the Waitotara River (Ogle pers comm). This area provides an important habitat for sea birds and game birds (Halsey pers. comm.). This area has unusual landforms in that the reefs are made of an extremely hard rock, a resistant calcareous conglomerate of Pleistocene origin containing abundant well-preserved fossils of oysters, toheroas, cockles, paua and barnacles (University of Auckland 1974).

Local Maori traditionally use the reefs for gathering kaimoana and this area has been a major fishing ground. Historically this area was the site of many fishing camps (Lands and Survey, 1975). The area also has special value to the local iwi.

Within this area are eight sites of archaeological value with Maori origin. Most of these sites consist of har stones and find spots. Hangi sites are depicted by fire-cracked stones, as well as fragmented mussel shells and bird bones (Bristow 1988).

This area is part of the internationally important sequence of uplifted marine terraces and it is also nationally important for its Pliocene-Pleistocene sedimentary sequences (Geopreservation Inventory).

Site Importance: International National Regional Local Unknown

Comment: This site is part of an internationally and nationally important geologically (see comments above).

Existing Threats: Type: -

Comment: These sites are continually exposed and reburied by shifting dunes.

Human Modification and Human Use: Type: A, H, I, J

Comment: A residential beach settlement has developed at the eastern end of this area. Shorebased recreation such as camping, walking, picnicking, swimming, fishing and water based recreation such as fishing also occurs here (Department of Lands and Survey 1975). This area is also used traditionally by the Maoris for shellfish gathering (Department of Lands and Survey 1986). The beach area and dunes are also heavily used by off road vehicles (C Ogle, pers comm).

Existing Protection: Type: C, D

Comment: This area is part of the Nukumaru Recreation Reserve. There is also a rural D1 zone (coastal protection) under the Waitotara County District Scheme. This zone covers 30m inshore from the toe of the foredune.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bristow, P 1988. An archaeological site survey of selected areas of the Waverley-Whenuakura Region. Unpublished report. Wanganui Museum 16p.
- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Department of Lands and Survey, 1986. Nukumaru Recreation Reserve Management Plan. Management Plan Series W0 RR 34 23p.
- Department of Lands and Survey (1975) Coastal Reserves Investigation. Report on Waitotara County. Unpublished report, Wellington Land District, Wellington 19p.
- Ministry of Agriculture and Fisheries 1987. Regional Background Discussion Paper on Areas to be investigated for proposed marine protected areas in the central fisheries management area. Unpublished document.
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297
- University of Auckland (1974) Maui Development Environmental Study Report on Phase I. Shell BP Todd Oil Services Ltd.

Contacts:

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Halsey B. Department of Conservation, Whanganui Field Centre.
- Local Nga Rauru Iwi - Gary Neilson, 36 Ruapehu Street, Wanganui
- Fehney, L. Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. <u>Other</u> |
| 7. None | | |

Comment:

- Geopreservation Inventory Record Number FOS302, 1986
- New Zealand Archaeological Association Site Record Forms. Department of Conservation, Wellington, Record Nos : R22 161, 162, 164, 165, 166, 167, 168, 169

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

The Ministry of Agriculture and Fisheries (1987) promoted this area for possible marine protected area status, the Department of Conservation is now following up this initiative.

Accompanying Maps and Photographs:

Site Name/s: Ventifacts

Site No: CRI 07 0040

Recorders Name: Leonie Fechny

Conservancy: Wanganui

Map No: R22

Grid Ref: 26560 61486

Date: 23.02.90

Brief Description of Site: This area consists of sand dune country next to the Waitotara River. Part of this area is in the Nukumar Domain while the rest is under private ownership.

Conservation Values:

Natural: G, D, E

Cultural:

Historic:

Comment: Ventifacts occur in large numbers on the sand plains amongst dunes between the Waitotara River and the Wainu settlement. Ventifacts are unusual and the site where they have formed is sensitive to change. Once the dunes have stabilised, be it by natural means or by the planting of marram (*Ammophila arenaria*), the mechanics of sand movement that have produced the ventifacts over hundreds of thousands of years will cease (Department of Lands and Survey 1986).

Site Importance:

International

National

Regional

Local

Unknown

Comment: Ventifacts are an unusual geological feature on this Conservancies coastline and are considered to be of regional significance (Fechny pers. obs.). It is hoped that they will be assessed nationally as part of the Geopreservation Inventory.

Existing Threats:

Type: D,

Comment: The ventifact beds are threatened by grazing cattle which alter the orientation of the rocks by trampling and therefore halting the slow process of wind and sand erosion which has shaped these rocks over a long period of time with no disturbance (Department of Lands and Survey 1987. B Halsey pers. obs.).

Human Modification and Human Use: Type: A

Comment: This area has been leased out and cattle graze the area (Department of Lands and Survey 1986).

Existing Protection: Type: C, D

Comment: This site is part of the Nukumar Domain which is designated a recreation reserve in the Waitotara District Scheme. The rest of this site has protective zoning that is described as rural D2 in the Waitotara County District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	<u>7</u>
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	6	7
Pre-action	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Department of Lands and Survey 1986. Nukumaru Recreation Reserve Management Plan. Management Plan Series No RR 34. Department of Lands and Survey, Wellington, 23p.
- Waitotara County District Scheme.

Contacts

- Halsey B. Department of Conservation, Whanganui Field Centre
- Fehney L. Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Nukumar Domain - Pingao

Site No: CRI 07 0041

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: R22

Grid Ref: 265448 61429

Date: 23.02.90

Brief Description of Site: This area is depicted by a dense area of native pingao (Desmoschoenus spiralis) on the true left bank of the Waitotara River mouth

Conservation Values:

Natural: B

Cultural: A,

Historic:

Comment: Pingao (Desmoschoenus spiralis = local) (Given 1990) is important botanically and, although common locally, competition from introduced dune plants such as marram grass (Ammophila arenaria) has led to its decline on a regional scale. This area has been suggested for a reserve in recognition of the traditional use of pingao by the Maori people for weaving (Department of Lands and Survey 1986).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A).

Botanically this area is probably only of local importance botanically as pingao is relatively common in the dunes along the Wanganui coast (C Ogle pers. comm.).

Existing Threats:

Type:

Comment: Unknown.

Human Modification and Human Use: Type:

Comment: None

Existing Protection: Type: C, I

Comment: The area of pingao is fenced off from cattle and is part of the Nukumar Domain Recreation Reserve administered by the Waitotara County. The Nukumar Domain covers an area of approximately 725ha.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	6	<u>7</u>
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	6	7
Land Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Department of Lands and Survey 1986. Nukumaru Recreation Reserve Management Plan. Management Plan series No. RR 34, Department of Lands and Survey, Wellington.
- Given D R, 1990. Threatened plant list and local plant list New Zealand Botanical Region (in draft). DSIR Land Resources. Christchurch.
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contact

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory Record No DEF 173, 1983.

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Waitotara River Swamp

Site No: CRI 07 0042

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26553 61502

Date: 23.02.90

Brief Description of Site: This area consists of a dense swamp of flax (Phormium tenax), toetoe (Cortaderia toetoe) the sedges Carex secta and Baumea rubiginosa, and some emergent cabbage trees (Cordyline australis).

The area covers approximately 2 hectares.

Conservation Values:

Natural: A, B

Cultural:

Historic:

Comment: This area is an excellent representative swamp and is among the best of its kind in the conservancy (pers obs). The presence of regionally uncommon plants such as the native grass Isachne globosa and the large willow herb Epilobium pallidiflorum further adds to the areas value (Ogle 1989). This swamp is also the likely habitat of pukeko (Porphyrio porphyrio melanotus), spotless crake (Porzana tabuensis plumbea) and native fishes (G. Randle pers comm.). The Australasian bittern is a threatened species (Bell 1986). This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating 'A').

The presence of regionally uncommon vegetation makes this a site of regional importance botanically (pers obs).

Existing Threats:

Type: C, D, M (M=drainage)

Comment: The presence of a fringing drain could threaten this area by lowering the water table (Ogle 1989). The area is also sensitive in places to invasion by cattle and the spread of weeds especially willows (pers obs).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Collection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155.
- Bell, B D 1986. The Conservation Status of New Zealand wildlife. Occasional Publication No. 12 New Zealand Wildlife Service, Wellington 103p.
- Ogle, C 1989. Wanganui Plant List 6. Vascular plants on the coast from Castlecliff to Hawera. Unpublished report Department of Conservation, Wanganui, 7p.
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contacts

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui
- Randle, G. Regional Representative Ornithological Society of New Zealand.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory Record No DEF 173, 1983.

Other Considerations: One brief survey was made of this area. More work in this area is required.

Accompanying Maps and Photographs:

Site Name/s: Waitotara River Estuary

Site No: CRI 07 0043

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26548 61500

Date: 23.02.90

Brief Description of Site: This area consists of tidal mud and sand flats. Small areas of saltmarsh do exist but for the most part the area is unvegetated. Standing stumps of sub-fossil totara 'drowned forest' give the river its name. The exact area of this site is unknown.

Conservation Values:

Natural: C, E, F, G

Cultural: A

Historic: C

Comment: The area is an important coastal and wading bird habitat and is one of the best representative estuaries in the conservancy (pers obs). Although it is smaller than the Manawatu, Rangitikei, Wanganui and Waitara estuary it is less disturbed by the presence of humans and their associated impacts (pers obs). Unique artefacts in the form of stumps of sub-fossil ancient trees (drowned forest) may give this area its name as well as scientific value (Fleming 1953). There is some debate over whether the ancient trees are totara giving the river its name of "a river of totaras" or whether they may in fact be rimu (Fleming 1953). Wilkies Bluff at the top of this area is a unique landform of scientific value. The bluff is the 'Holostratotype of the Mangapanian stage' and has fossil bivalves and gastropods (Fleming, 1953). This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

The estuary is probably also an important nursery and breeding ground for many fish species. Mudflat snails (*Amphibola crenata*) are common (pers. obs.). The Waiiau stream, also in this area, is an important whitebait (*Galaxias sp*) spawning ground (B Halsey pers. comm.). This area also has a special value to the local Iwi.

At the top of this area is a ferry punt landing site which operated in the early days of European settlement (Waitotara School Centennial). On the bluff was the site of Camerons redoubt (J Mitchell-Anyon 1979). Both of these sites are of archaeological value (non-maori) origin. Also of interest is the site of the original Waitotara Hotel called the 'Rising Sun'. The cellar for the hotel consisted of a cave in the cliff which is still intact today (Waitotara School Centennial).

Bird species noted on this estuary include the royal spoonbill (*Platalea leucorodia regia*) and banded dotterels (*Charadrius bicinctus bicinctus*) which are threatened species (Bell 1986). Eastern bar-tailed godwits (*Limosa lapponica baueri*) and South Island Pied oystercatcher, (*Haematopus ostralegus finschi*) are regularly seen (pers. obs.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is both internationally and nationally important geologically (Geopreservation Inventory Rating 'A' and 'B'). This site is nationally important for the presence of nationally threatened royal spoonbill (*Platalea leucorodia regia*) and banded dotterel (*Charadrius bicinctus bicinctus*) bird species (Bell 1986).

Existing Threats:

Type: C, D, K

Comment: Threats to this area include the invasion by weeds which is causing a problem and needs control at Wilkies bluff. Off road vehicle use in this area is minor (pers. obs.). Cattle access to Waiiau Stream and the riparian strips of the Waitotara River destroy whitebait spawning habitat (B Halsey pers. comm.).

Human Modification and Human Use: Type: H

Comment: Recreational activities such as whitebaiting, bird watching and picnicking are a human use in this area (pers. obs.).

Existing Protection: Type:

Comment: Unknown

A. Availability of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>
Cultural	<u>1</u>	<u>2</u>	<u>3</u>
Historic	<u>1</u>	<u>2</u>	<u>3</u>
Threats	<u>1</u>	<u>2</u>	<u>3</u>
Human Mod. & Use	<u>1</u>	<u>2</u>	<u>3</u>
Protection	<u>1</u>	<u>2</u>	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Geology is well documented

Sources of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Cultural	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Historic	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Threats	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Human Mod & Use	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Protection	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bell, B D. 1986. The Conservation Status of New Zealand Wildlife. Occasional Publication No 12 New Zealand Wildlife Service, Wellington.
- Fleming, C A. 1953. Geology of Wanganui subdivision. New Zealand Geological Survey Bulletin 52. DSIR, Wellington.
- Mitchell-Anyon J (1979) Wanganui Regional Historic Sites. Unpublished Map. Department of Conservation, Wanganui.
- Ogle, C 1989 b. Whanganui plant list 6. Vascular plants of the coast from Castlecliff to Hawera. Unpublished report: Department of Conservation, Wanganui. 7p.
- Waitotara School Centennial 1876-1976 - School and District History. Centennial Committee 1976 published by Wanganui Newspapers Limited 63p.

Contacts

- Athol Kirk, 50 Somerset Road, Wanganui.
- Halsey B, Department of Conservation, Whanganui Field Centre.
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Local Nga Ruaru iwi - contact G Neilson, 36 Ruapehu Street, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|--------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | |
| 6. Other | 7. None | |

Comment:

- Geopreservation Inventory - Record No. FOS 303 19?
- WERI: Waitotara River Mouth 1985 National Significance
- SSWI Unpublished data held at Department of Conservation, Wanganui

Other Considerations: River bank fencing and planting by the Catchment Board has occurred in some areas (pers. obs.).

Accompanying Maps and Photographs:

Site Name/s: Hawkens (Paroa) Lagoon and Dunes

Site No: CRI 07 0044

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: R22

Grid Ref: 26540 61500

Date: 23.02.90

Brief Description of Site: The area consists of a series of parallel dunes and damp dune hollows and covers approximately 191 ha.

Conservation Values:

Natural: A, B, C, D, F, G, H

Cultural:

Historic:

Comment: This area has high conservation value because of the large number of different plant communities:- from those representative of loose sand; [*Spinifex* (*Spinifex sericeus*), marram grass (*Ammophila arenaria*), and pingao (*Desmoschoenus spiralis*)] to plants representative of damp dune flats [the herbs (*Selliera radicans* and *Triglochin striatum*; jointed wire rush (*Leptocarpus similis*), the club sedge (*Isolepis nodosa*)], to lake edge swamps containing raupo (*Typha orientalis*), the jointed rush (*L. similis*), kuta (*Schoenoplectus validus*), and submerged vegetation of the pond weeds, *Potamogeton cheesmanii*, and *P. ochreatus* and milfoil (*Myriophyllum propinquum*), (Ogle 1989c).

The herb *Sebaea ovata* and the sedge, *Eleocharis neozelandica* are present at this site (Ogle 1989) and both of these species are recognised as endangered by Given (1990). The botanical values of this area make it of scientific interest as well as being nationally important (per obs).

Many bird species including the black-fronted dotterel, (*Charadrius melanops*), New Zealand shoveler (*Anas rhynchos variegata*) and Australasian bittern (*Botaurus stellaris poiciloptilus*) have been noted in this area (pers obs). The bittern is a threatened species (Bell 1986).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A).

The area also represents one of the best wet dune communities in the Wanganui Conservancy (pers obs.). The area also has two endemic endangered (Given 1990) plant species *Sebaea ovata* and *Eleocharis neozelandica* which are internationally important and the threatened (Bell 1986) Australasian bittern (*Botaurus stellaris poiciloptilus*) which is of national importance.

Existing Threats:

Type: C, D, K,

Comment: The area is threatened by weed invasion (especially boxthorn, marram and pasture grasses) and to a small extent by cattle grazing and offroad vehicles (pers obs). Although the area is fenced it is not fully effective (pers obs).

Human Modification and Human Use: Type: H

Comment: The area receives minor recreational use such as walking and waterfowl hunting (pers obs).

Existing Protection: Type: A

Comment: The area is DOC stewardship land

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bell B D 1986. The Conservation Status of New Zealand wildlife. Occasional publication No. 12 New Zealand Wildlife Service, Wellington 103p.
- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Given D R 1990. Threatened plant list and local plant list - New Zealand botanical region (in draft) Land Resources, DSIR, Christchurch.
- Ogle C 1989c. Wanganui Plant List 7. List of vascular plants for "Hawkins Lake" and adjoining dunes on the true right bank of the Waitotara River mouth. Unpublished report. Department of Conservation, Wanganui 7p.
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contacts

- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- Geopreservation inventory record no. DEF 173, 1983
- SSWI : Unpublished data held at Department of Conservation, Wanganui
- WERI : Waitotara Mouth Wetlands 1982 National Significance

Other Considerations: This area is subject to an iron sands prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Waitotara Beach

Site No: CR 07 0045

Recorders Name: June Brookes

Conservancy: Wanganui

Map No: R22

Grid Ref: 26510 61510

Date: 23.02.90

Brief Description of Site: This area consists of low sand dunes fronted by an ironsand beach. The exact size of this site is unknown.

Conservation Values:

Natural: H

Cultural:

Historic: B

Comment: A series of archaeological sites of Maori origin are located in this area. Three hangi sites have been recorded (Bristow, 1988). The hangi sites are fairly intact and are depicted by a scatter of hangi stones which are scattered over the dune surface. Bristow (1988) also reports the occasional flaked quartzite cobbles and fragments of pipi and tuatua shell which may represent the remains of a midden. European period material is also present at one of the sites. This includes the neck of a bottle which has an applied lip a feature that usually dates to the late 19th and early 20th century (Bristow, 1988). This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillons, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A). However, the site importance of the archaeological sites is unknown.

Existing Threats:

Type: A,

Comment: These hangi sites are exposed on the surface by wind erosion (Bristow, 1988).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: This area is within a protective zone identified as rural 'C' in the Patea County District Scheme

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	6	7
Habitat Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Bristow P 1988. An archaeological site survey of selected areas of Waverley-Whenuakura Region - Wanganui Regional Museum 16p.
- Patea District Scheme
- Pillons B, 1983. Upper quarternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297

Contacts

- Brookes J, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. <u>Other</u> |
| 7. None | | |

Comment: New Zealand Archaeological Association Site Record. Record nos R22, 158; R22 159; R22 160. Department of Conservation, Wellington.

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Waverley Beach Campground Cliff Tops

Site No: CRI 07 0046

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26501 61512

Date: 24.2.90

Brief Description of Site: This area consists of native herbfields on the cliff edge and on top of the adjoining mudstone stack and covers approximately 0.5 hectares.

Conservation Values:

Natural: A B D E F G H

Cultural:

Historic:

Comment: The cliff top at this site is dominated by the mat-forming grass Zoysia minima (pers. obs.). One patch of Leptinella (= Cotula) squalida (female only) is also present. This area has a high degree of naturalness with respect to the plant communities present. The rare herb Crassula manaia which is a nationally threatened species (Given 1990) has its southern limit here (pers. obs.).

This area also has unusual landforms in the form of half eroded stacks (pers. obs.)

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983)

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces. (Geopreservation Inventory rating A).

It is also nationally important since it represents the southern limit of the threatened species Crassula manaia (pers. obs.).

Existing Threats:

Type: C K

Comment: This fragile area is close to a camping ground and popular road end viewing point, hence it is threatened by vehicles and human trampling.

The site is also under threat from the invasion and spread of weeds such as hawkbit (Leontodon taraxacoides) and yorkshire fog (Holcus lanata) (pers. obs.).

Human Modification and Human Use: Type: A H

Comment: This area has a camping ground and is used for shore-based recreation such as walking and offroad vehicles.

Existing Protection: Type: D

Comment: This area is within a protective zone identified as rural 'c' in the Patea District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Given D R, 1990. Threatened plant list and local plant list. New Zealand Botanical Region (IN DRAFT) DSIR Land Resources, Christchurch.
- Patea District Scheme
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts

- Ugle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory record no. DEF 173, 1983.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Waverley Beach

Site No: CRI 07 0047

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26490 61516

Date: 24.2.90

Brief Description of Site: This area can be described as sparsely vegetated mudstone cliffs. In a few places dunes have formed at the base of the cliff where the high tide does not reach the cliff base. Interbedded sand and peat layers can be found in places. The cliff tops are mostly pasture and/or weeds. Small stacks and peninsulas occur (pers. obs.).

Conservation Values:

Natural: A B E F G H

Cultural:

Historic:

Comment: This area is representative of a large stretch of coast (pers. obs.). Botanically a rare species Leptinella (=Cotula) dispersa subsp rupestris (Given 1990) has been found in several places where damp sand pockets have formed on the cliffs (Lloyd 1972). These are female plants only (Ototoka - Mowhanau coast are all male plants). Leptinella dispersa subsp rupestris is only found in one other place in New Zealand outside of the Wanganui Conservancy so it is of national importance (C Ogle pers. obs.). This plant is also of scientific value because only single sex populations have been found, hence this species and this area are important for genetic research (D Lloyd pers. comm.).

Pingao (Desmoschoenus spiralis = local) is located in patches on dunes at the cliff base (Given, 1990). The cliff faces, due to the species assemblage, has a high degree of naturalness (pers. obs.).

This area is highly eroded and the mudstone has formed interesting stacks and features on the coast (pers. obs.).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

Fleming (1953) identified the cliffs from Waipipi point to the Waitotara fault as a Pliocene-Pleistocene Epoch with fossil bivalves and gastropods. The mouth of the Wairoa Stream to the north of Waverley Beach is a Holostratotype of Waipipian stage and Oturian stage (Fleming 1953).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is part of the internationally important sequence of uplifted marine terraces and it is also nationally important for the fossil bivalves and gastropods (Geopreservation Inventory rating 'A' and 'B').

The area is of national importance due to the presence of a rare (Given, 1990) plant species Leptinella dispersa subsp rupestris.

Existing Threats:

Type: A

Comment: This area is threatened by natural instability caused by erosion (pers. obs.).

Human Modification and Human Use: Type: H

Comment: The beach is used by off-road vehicles (pers. obs.).

Existing Protection: Type: D

Comment: It is also within a protective zoning of rural 'c' in the Patea District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Fleming, C A 1953. Geology of Wanganui Subdivision New Zealand Geological Survey Bulletin 52.
- Given D G (1990) Threatened Plant List and Local Plant List New Zealand Botanical Region. DSIR Land Resources, Christchurch.
- Lloyd, D G 1972. A revision of the New Zealand Subantarctic and South American Species of Cotula section Leptinella. New Zealand Journal of Botany 10: 277-372.

Contacts:

- Lloyd D. Senior Lecturer Botany, University of Canterbury, Christchurch.
- Ogle C. Conservancy Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory Record no. DEF 173, 1983.

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Wairoa Stream Mouth

Site No: CRI 07 0048

Recorders Name: Leonie Fehney

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26479 61521

Date: 24.2.90

Brief Description of Site: This area consists of coastal cliffs around the Wairoa Stream mouth. The exact area of this site is unknown.

Conservation Values:

Natural: E H

Cultural:

Historic:

Comment: This area is of national importance geologically. The cliffs have a holostratotype of Waipipian and Oturian stages (geological time scale stages) and contain fossils of bivalves and gastropods (Fleming 1953).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983)

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of part of an internationally important sequence of uplifted marine terraces, it is also nationally important for the fossil bivalves and gastropods in the cliffs (Geopreservation Inventory rating 'A' and 'B').

Existing Threats:

Type: A

Comment: Slow coastal erosion is a threat to this site (Geopreservation Inventory).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: A D

Comment: Stewardship land exists on the true right bank of the stream, while a recreation reserve vested in the South Taranaki District lies on the true left bank. It is also within a protective zone identified as rural 'c' in the Patea District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Little information is available on erosion.

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	6	7
History, Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Reference:

- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Fleming C A, (1953). Geology of Wanganui Subdivision. New Zealand Geological Survey Bulletin 52.
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts:

- Fechney L. Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|----------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | | |
| 5. HPT County Inventories | 6. Other | |
| 7. None | | |

Comment: Geopreservation Inventory Record no. FOS 300, 1986
 Record no. DEF 173, 1983

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence.

Accompanying Maps and Photographs:

Site Name/s: Waipipi East

Site No: CRI 07 0049

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26478 61522

Date: 24.2.90

Brief Description of Site: This site consists of a series of four distinct hangi sites. The size of this site is unknown.

Conservation Values:

Natural: H

Cultural: A

Historic: B

Comment: Hangi stones and flake material exposed by eroding dunes indicates that these were temporary occupation sites. At one site flake material was found and this lithic material consists of chert, obsidian and argillite. One of the flakes of chert shows the use of a tool and the sole argillite flake has come from a ground stone tool, probably an adze (Bristow, 1988).

This area has special values to the local iwi.

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces. (Geopreservation Inventory rating A). The significance of the archaeological sites is unknown.

Existing Threats:

Type: A

Comment: Dune instability continually uncovers and covers these sites (Bristow, 1988).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: This area has a protective zone identified as rural 'c' in the Patea District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Prior Condition	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bristow, P 1988. Waverley Archaeology: An Archaeological site survey of selected areas of the Waverley-Whenuakura Region. Wanganui Regional Museum. 16pp.
- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts:

Fechney L. Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. <u>Other</u> |
| 7. None | | |

Comment:

- Geopreservation Inventory record no. DEF 173, 1983.
- New Zealand Archaeological Association. Site Record Forms, Department of Conservation, Wellington. Record nos. Q22 33; Q22 72; Q22 73.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Marine habitat locally known as the North and South Trap. Site No: CRI 07 0050

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26400 61490

Date: 24.2.90

Marine Map 174°32' Longitude by 39°52' Latitude
NZ 45 Port Taranaki.

Brief Description of Site: This area consists of two adjoining reef systems approximately 6km offshore from Waipipi. The size of the area is unknown.

Conservation Values:

Natural: E

Cultural:

Historic:

Comment: This area is a well-known and popular reef due to the fact that Patea is one of the few places with a concrete boat ramp on this section of the coast (pers. obs.). The area is used mostly for recreational diving (R Opie pers. comm.). Seaweed forests of Ecklonia radiata, with crayfish (Jasus edwardsii), kingfish (Seriola grandis), blue cod (Paraperca colias) and grey shark (Flexanchnus griseus) are some of the species that are abundant in this area (pers. obs.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is regionally important as a recreational area for divers. The biological values of the site have not been assessed.

Existing Threats:

Type:

Comment:

Human Modification and Human Use: Type: I

Comment: This area is used for fishing and SCUBA diving.

Existing Protection: Type:

Comment: none

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	<u>6</u>	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Tits	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Contacts:

- Opie R, Dive Instructor, South Taranaki Dive Club, Hawera
- Marsh N, Department of Conservation, Wanganui Field Centre.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations: TCPL Resources Limited are undergoing oil exploration within the Kaheru Prospect, Licence Number PPL 38116 which is nearby.

Accompanying Maps and Photographs:

Site Name/s: Waipipi West

Site No: CRI 07 0051

Recorders Name: June Brookes

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26430 61537

Date: 24.2.90

Brief Description of Site: This area consists of coastal dune country. The size of the area is unknown.

Conservation Values:

Natural: H

Cultural:

Historic: B

Comment: Five historic sites of Maori origin exist within this general area. Several hangi sites are present and these are characterised by a surface scatter of fire-reddened and fractured stones. A flaking area depicted by quartzite cobbles which were found exposed on the surface in a deflated dune are also present in this area (Bristow 1988).

To the north of this general area is an historic Maori occupation site. Within this occupation site archaeological material has been found scattered on the surface of a dune blow out. This includes grooved fishing sinkers, hangi stones and some human skeletal material which was thought to be toe or finger bones (Bristow 1988).

A site near the coast also consists of house floors (NZ Archaeological Association Records).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating A). The significance of this site archaeologically is unknown.

Existing Threats:

Type: A

Comment: Erosion in the form of shifting sand dunes threatens these archaeological sites (Bristow, 1988).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D A

Comment: This area is within a protective zoning identified as rural 'c' in the Patea District Scheme. A Section 58 strip also covers part of this site.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Hum. Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bristow P 1988. Waverley Archaeology - An Archaeological Site Survey of selected areas of the Waverley and Whenuakura Region. Unpublished report. Wanganui Regional Museum, 16p.
- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Patea District Scheme.
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts:

- Brookes J, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- Geopreservation Inventory record no. DEF 173, 1983.
- New Zealand Archaeological Association. Record No. Q22 60; Q22 62; Q22 63; Q22 64; Q22 24. Department of Conservation, Wellington.
- Historic Places Inventory, Patea County, October 1982. Q22, 24.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Whenuakura River Mouth Site No: CRI 07 0052

Recorders Name: Leonie Fechney Conservancy: Wanganui

Map No: Q22 Grid Ref: 26395 61573 Date: 24.2.90

Brief Description of Site: The area consists of a small river estuary with a local saltmarsh, dunes and swamp. There is also a pond about 300m west of the river mouth.

The river mouth is tidal and there are extensive mudflats around the island and further up the river (Ogle pers. comm.).

The size of this area is 15ha.

Conservation Values: Natural: B C H Cultural: A D Historic: B

Comment: A reasonable number of birds have been noted here which is significant as saltmarshes and wading bird habitats are rare in this conservancy.

Such species include the threatened Royal spoonbill (Platalea leucorodia regia) and the South Island pied oyster catcher (Haematopus ostralogus finshi) which are migratory visitor to this estuary (Cook M pers. comm.).

The presence of an unusually small form of the herb Leptinella squalida has also been noted at this site (D. Lloyd pers. comm.).

This area was also the site of a Maori Kainga (village) which was situated on the sand dunes on the true left bank of the river. A pa existed on the island in the estuary. Many pits have also been identified in and around the site (New Zealand Archaeological Association Records). Sites of spiritual significance are also present (Brookes, pers. comm.).

This area is of spiritual value to the local Nga Rauru Iwi.

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

Site Importance: International National Regional Local Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating A).

The area has been afforded a national rating of 'potential' by NZ Wildlife Service Fauna Survey Unit and is nationally important for the presence of the threatened species, Royal spoonbill (Bell, 1986).

Existing Threats: Type: C D

Comment: *Spartina* was noted as being present in 1978 and to date is not known to have been removed (C Ogle pers. comm.). Stock grazing also threatens this area (C Ogle pers. comm.). Erosion is also a threat to some of the archaeological sites (Brookes J pers. comm.).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Occasional publicate No. 12, Wellington 103p.
- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts

- Brookes J, Department of Conservation, Wanganui.
- Cook M, Department of Conservation, Wanganui.
- Fechney L, Department of Conservation, Wanganui.
- Lloyd D, Senior Lecturer, Botany, Canterbury University, Christchurch.
- Ogle C, Conservancy Scientist, Department of Conservation, Wanganui.
- Local Nga Ruaru Iwi, G Neilson 36 Ruapehu Street, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|----------------------------------|-----------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- Geopreservation Inventory Record no. DEF 173, 1983.
- New Zealand Archaeological Association, Site Record Forms, Department of Conservation, Wellington. Record No. Q22 2; Q22 21.
- NZ Wildlife Service SSWI Unpublished data held at Department of Conservation, Wanganui
- WERI Database : Whenuakura River Mouth 1985. Regional significance.
- Historic Places Inventory, Patea County, October 1982. Q22 2 and 21.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Patea River

Site No: CRI 07 0053

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26374 61590

Date: 24.2.90

Brief Description of Site: This area can be described as the mud and sand margins of a tidal river (Patea River) where there is little native vegetation. This site also includes an area on the true left bank of the Patea River which has a tidal saltmarsh backed by steep mudstone cliffs. The cliff face vegetation consists of flax (Phormium tenax), toetoe (Cortaderia toetoe), tuhara (Machaerina sinclairii), mahoe (Melicytus ramiflorus), taupata (Coprosma repens), koromiko (Hebe stricta), and hangehange (Geniostoma rupestre). (pers. obs.) This size of this area is unknown.

Conservation Values:

Natural: C B

Cultural: A D

Historic:

Comment: On the sand dunes at a picnic area a small patch of pingao Desmoschoenus spiralis exists (local importance, Given 1990). The area is also used by wading and coastal birds (C Ogle pers. comm.). The saltmarsh and cliffs display an excellent representative sequence of estuarine to cliff vegetation (C Ogle pers. comm.). The saltmarsh ribbonwood, Plagianthus divaricatus is present and this has its next nearest location in the Manawatu and Waitara River estuaries.

A small saltmarsh adjacent to the old freezing works is dominated by the weed Spartina anglica, with the glasswort, Sarcocornia quinqueflora and saltmarsh ribbonwood also present (C Ogle pers comm.).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

This area has spiritual value for the Nga Rauri Iwi.

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating A).

This site is also of regional importance due to the vegetation sequences that are present (C Ogle pers. comm.).

Existing Threats:

Type: C

Comment: Spartina has invaded the saltmarsh on the true left bank of the river and has choked out most of the native vegetation (C Ogle pers. comm.).

Human Modification and Human Use: Type: K

Comment: The Patea River has been extensively modified by wharves, groynes and seawalls as it was once a port (N Marsh pers. comm.).

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	<u>1</u>	<u>2</u>	3
Historic	<u>1</u>	2	3
Threats	1	2	<u>3</u>
Hi Mod. & Use	1	2	<u>3</u>
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	<u>2</u>	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	<u>6</u>	7
Historic	1	2	3	4	5	6	7
Threats	<u>1</u>	<u>2</u>	<u>3</u>	4	<u>5</u>	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
- Given D R, 1990. Threatened Plant List and Local Plant List New Zealand Botanical Region (Vascular Plants (Draft).
- Pillans B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297.

Contacts

- Fechney L, Department of Conservation, Wanganui.
- Local Nga Rauru Iwi contact G Neilson, 36 Ruapehu Street, Wanganui.
- Marsh N, Department of Conservation, Whanganui Field Centre
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---------------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory record no. DEF 173, 1983.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Waitore Swamp

Site No: CRI 07 0054

Recorders Name: June Brookes

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26388 61575

Date: 24.2.90

Brief Description of Site: This area consists of coastal dunes and includes a small coastal peat swamp (Waitore Swamp) which is located about 1.5km from the Patea Rivers. The exact size of this area is unknown.

Conservation Values:

Natural:

Cultural:

Historic: B E

Comment: The Waitore swamp is a very important archaeological site containing well preserved wooden artefacts (Davidson 1984). Davidson (1984) notes that this material is dated back to the 15th century and is the oldest dated assemblage of wooden artefacts known from New Zealand (AD 1380-1500). The two most significant wooden items found in Waitore swamp are a small human head and a decorated board thought to be part of a canoe cover (Cassells 1979). Other artefacts found in the swamp are well preserved canoe parts, paddles, godsticks, chisel handles, adze handles, wooden troughs and carvings (Cassells 1979).

Other archaeological sites of Maori origin in the vicinity of Waitore swamp are find spots consisting of grooved fishing sinkers, a small midden of pipi shells and a surface find of flaked cobble all of which indicate Maori occupation at some time in the past (Bristow 1988).

Importance:

International

National

Regional

Local

Unknown

Comment: The swamp artefacts are particularly significant because of the water logged wooden material they have produced. The swamp is one of the few areas in the Wanganui Region that has produced significant amounts of 'Archaic material' (Bristow 1988). This small swamp has yielded material that dates back to the fifteenth century and is the oldest dated assemblage of wooden artefacts known from New Zealand (Davidson 1984). Thus, this swamp probably rates as being nationally significant.

Existing Threats:

Type: A

Comment: These artifacts have been exposed due to erosion of a small stream which runs into the sea near the mouth of the Whenuakura River (Cassells 1979).

Human Modification and Human Use: Type:

Comment: Unknown

Existing Protection: Type: D

Comment: The area is with a protective zoning which can be identified in the Patea District Scheme as rural 'c'.

Availability of Information:

Natural	1	2	3
Cultural	1	2	<u>3</u>
Historic	<u>1</u>	2	3
Threats	<u>1</u>	2	3
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	6	<u>7</u>
Historic	<u>1</u>	2	3	4	5	6	7
Maps	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bristow P, 1988. Waverley Archaeology - an Archaeological site survey of selected areas of the Waverley-Whenuakura Region. Unpublished report. Wanganui Regional Museum 16p.
- Cassels R, 1979. Early prehistoric wooden artefacts from the Waitore site (N136/16), near Patea, Taranaki New Zealand Journal Archaeological Vol. 1 pp 85-108.
- Davidson J 1984. The prehistory of New Zealand. Longman Paul Limited 270p.
- Patea District Scheme.

Contacts:

- Brookes J, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- NZ Archaeological Association. Site Record Forms, Department of Conservation, Wellington. Record No. Q22 15; Q22 40; Q22 41.
- Historic Places Inventory, Patea County, October 1982. Q22 15.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Patea River Mouth

Site No: CRI 07 0055

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q22

Grid Ref: 26377 6158ⁿ

Date: 24.2.90

Brief Description of Site: This site is a general area of historic sites on the bank of the Patea River and the adjacent foreshore. The size of the site is unknown.

Conservation Values:

Natural: H

Cultural:

Historic: C

Comment: This area has within it two redoubts; one on the top of the cliffs on the true left bank of the Patea River and the other on the cliffs fronting the foreshore to the North West of the Patea River Mouth (New Zealand Archaeological Association records). This area has special value to the local Nga Rouru Iwi.

Fleming (1953) reported that a drowned forest was also present at Patea. It was thought that these forests which had flourished on the flood plains of the Waitotara and Patea Rivers, were submerged and partly buried by estuarine mud and this occurred later than the Hawera formation.

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappell, 1975; Pillans, 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces. (Geopreservation Inventory Rating A). However, the importance of the site historically is unknown.

Existing Threats:

Type:

Comment: Unknown.

Human Modification and Human Use: Type: I D H

Comment: The Patea River has the only concrete boat ramp between Opunake and Wanganui and thus is popular with recreational fishermen (pers. obs.). Fishing, swimming and surfing are all examples of shore based recreation that occur in this area (pers. obs.).

Existing Protection: Type:

Comment: Unknown

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	<u>6</u>	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Chappell J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155.
- Fleming C A, 1953. The geology of the Wanganui subdivision. New Zealand Geological survey Bulletin 52. DSIR, Wellington.
- Pillons B, 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology II: 292-297.

Contacts:

- Marsh N. Department of Conservation, Wanganui Field Centre.
- Nga Rauru Iwi
 - Tower S. c/- Rangitaawhi Marae Trust, Patea.
 - Raimoana T. 15 Elizabeth Street, Patea.
 - Neilson G. 36 Ruapehu Street, Wanganui.

Recorded on Existing Databases:

- | | | |
|---------------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. <u>None</u> | | |

Content:

- Geopreservation Inventory record no. DEF 173, 1983.
- New Zealand Archaeological Association Site Records No's 9 and 10.
- Historic Places Inventory, Patea County, October 1982. Q22 9 and 10.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Kakaramea Beach

Site No: CRI 07 0056

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26316 61627

Date: 24.2.90

Brief Description of Site: This area has steep sea cliffs consisting of mostly sedimentary (mudstone) and tephra layers. A stream runs over the cliff edge. The size of this site is unknown. Adjacent land use is pastoral farming.

Conservation Values:

Natural: A, B, F, G, H

Cultural:

Historic: A

Comment: This site has a high degree of naturalness due to the sparse native herbs found on the cliff faces and in boggy areas on the cliff tops (pers. obs.).

Compact turfs of the grass Zoysia minima are present on the cliff tops (pers obs). On the top of the cliff near the stream, the herb, Leptinella pusilla (= Cotula membranacea) has been recorded and this is the only known record of this species between Levin and the Waikato River mouth (C Ogle 1989).

This site also represents or is close to, the southern limit for a native plantain Plantago masoniae in the North Island (Allan, 1961). The presence of the rare taxon Leptinella dispersa subsp. rupestris (Given, 1990) has also been noted at this site (Ogle 1989). This species is found in one other place in New Zealand outside the Wanganui Conservancy and therefore is nationally important (pers obs). This plant is also of known scientific value because only single sex populations of this species have been found and hence it is important for genetic research (D Lloyd pers comm).

This site is historically important as it was the site of one of the first hydro-electricity stations established in New Zealand (1901). The station was run by locating the power house at the base of the cliffs and utilising the power of the water as it spilled over the cliffs (pers. obs.). The station, however was destroyed in the early 1920's when the dam at the top of the cliffs gave way (Leslie et al, 1981). The concrete structure still remains at this site (pers. obs.).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappel 1975, Pillans 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory Rating A). Botanically this site is regionally important due to the significant occurrences of Leptinella pusilla, Plantago masoniae, and nationally important for the herb Leptinella dispersa subsp. rupestris (C Ogle 1989).

Existing Threats:

Type: A

Comment: These sites are threatened by coastal erosion (pers obs).

Human Modification and Human Use: Type: H

Comment: This area is popular with recreational fisherman who fish from the top of the cliffs (N Marsh pers. comm.).

Existing Protection: Type: A D

Comment: This area is protected by a section 58 strip and is zoned rural 'c' in the Patea District Scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	<u>3</u>	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	6	<u>7</u>
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Allan, H 1961: Flora of New Zealand Volume 1. Government print.
- Baker L, and Church I, 1981. Patea - A Centennial History. Dunmore Press, Palmerston North.
- Given, D R 1990: Threatened plant list and local plant list - New Zealand Botanical Region (in draft) Land Resources, DSIR, Christchurch.
- Ogle C, 1989: Whanganui Plant List 6. Vascular plants of coast from Castlecliff to Hawera unpublished report. Department of Conservation, Wanganui. 7p.

Contacts:

- Nga Rauru Iwi: Sue Tower c/- Rangitaawhi Marae Trust Patea ph 0623-8750, or Tony Raimoana 15 Elizabeth Street, Patea ph 0623-8554.
- Lloyd, D: Senior Lecturer Botany University of Canterbury, Christchurch.
- Marsh, N: Conservation Officer, Department of Conservation, Wanganui.
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory record no. DEF 173, 1983.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Manawapou River Mouth

Site No: CRI 07 0057

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26258 61713

Date: 24.2.90

Brief Description of Site: This area consists of a series of mudstone sea cliffs with overlying tephra layers (C. Ogle pers. comm.). Vegetation consisting of coastal herbs and other halophytes exists in sand pockets on cliff edges. The adjacent land use is pastoral farming. The size of the area is unknown.

Conservation Values:

Natural: A, B, F, G, H

Cultural:

Historic: A, B

Comment: This area is very representative of coastal vegetation with the presence of coastal herbs and unusually dense mats of Selliera radicans (C Ogle 1989b). The presence of the 'rare' plant Leptinella (= Cotula) dispersa subsp. rupestris (Given 1990) was recorded here by Lloyd (1972). Leptinella dispersa subsp. rupestris is only found in one other place in New Zealand outside of the Wanganui Conservancy, so it is of national importance. This plant is also of scientific value because only single sex populations have been found, hence the species and this area are important for genetic research (D Lloyd pers. comm.). The cliff area has a high degree of naturalness (C Ogle pers comm).

The area is part of the South Taranaki uplifted marine terraces sequence which are internationally important and represents New Zealand's most complete sequence of uplifted marine terraces. Twelve strandlines are recognised (Chappell 1975; Pillans 1983; NZMS).

This area is also the site of Manawapou Pa (NZ Archaeological Association Records) and a group of unnamed semi-coastal pa sites. The area also has within it the site of Thatchers redoubt which is a coastal redoubt fortification (Mitchell-Anyon 1979).

Site Importance:

International

National

Regional

Local

Unknown

Comment:

Geologically, this site is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating 'A') and nationally important for the presence of a rare plant Leptinella dispersa subsp. rupestris (Given 199).

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type: H, J, A

Comment: There is a bulldozed track on the true left bank and some foot tracking which is usually to gain access to the river for whitebaiting and other fishing (C Ogle pers comm). The area is also grazed by sheep where ever access is available (C Ogle pers comm). An area to the south of Manawapou is a traditional Maori food gathering area of the Ngati-Hine and Tangahore subtribes (Taranaki Catchment Commission 1983).

Existing Protection: Type: D

Comment: This area lies within a protective zoning of rural (coastal protection) in the Hawera District Scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	<u>1</u>	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	<u>3</u>	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Chappell J, 1975: Upper Quaternary warning and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155.
- Given D R, (1990) Threatened Plant List and Local Plant List. NZ Botanical Region. (Draft) DSIR Land Resources Christchurch.
- Hawera District Scheme.
- Historic Places Trust
- Lloyd D (1972) A Revision of the NZ Subantarctic and South American Species of Cotula section Leptinella. NZ Journal of Botany 10: 277-372.
- Mitchell-Anyon J, 1979: Wanganui Region - Historic Sites unpublished map, Department of Conservation, Wanganui.
- Ogle C (1989b) Whanganui Plant list 6. Vascular plants of coast from Castlecliff to Hawera (Unpub.) DOC Wanganui 7p.
- Pillans B, 1983: Upper Quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology II: 292-297.
- Taranaki Catchment Commission Report (1983) Study of seafood in South Taranaki.

Contacts:

- Fehney L. Department of Conservation, Wanganui
- Lloyd D. Senior Lecturer Botany - University of Canterbury, Christchurch.
- Nga Rauru Tribe, contact Sue Tower, C/- Rangitaawhi Marae Trust, Patea ph 0623 8750, or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.
- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

- | | | |
|---|---------|---------------------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> record no DEF 173 1983. | | 5. HPT County Inventories |
| 6. <u>Other</u> | 7. None | |

Comment:

- New Zealand Archaeological Association. Site Record Forms, Department of Conservation, Wellington, Record No Q21 105. Site last visited 1961.
- Geopreservation Inventory Record No. DEF 173 (1983).

Other Considerations: This area is part of a larger area over which there is an ironsand prospecting licence. The cliffs are generally self protecting due to their high vertical aspect (C Ogle pers comm).

Accompanying Maps and Photographs:

Site Name/s: Manawapou

Site No: CRI 07 0058

Recorders Name: Martin Nicholls

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26260 61717

Date: 24.2.90

Brief Description of Site: This site can generally be described as a piece of retrograding coastline, with stacks, pinnacles and peninsulas. The adjacent land use is pastoral farming. The size of the site is unknown.

Conservation Values:

Natural: E H

Cultural: B, C

Historic: A B

Comment: This site has unusual landforms with stacks, pinnacles and peninsulas (pers obs). The landscape is described as complex, but apart from native herbs on the seacliffs, the vegetation is simple, that is, pasture. The landscape is described as a 'heritage site' and has aesthetic values (pers obs).

Historic human use of this site is also an important feature of the overall landscape as indicated by pa sites and redoubts (pers obs).

This area is also the site of a number of Maori pits (NZ Archaeological Association Records) and Inmans redoubt, a coastal fortification, is also present at this site (NZMS topographical map).

The site is geologically important in that it is part of New Zealand's most complete sequence of uplifted marine terraces which run from Hawera to Wanganui (Chappell 1975, Pillans 1983).

Fleming (1953) reported that at Manawapo, where the cliffs were less than 400 feet high, stumps of trees could be seen standing in the ocean at the base of the cliff where they have braved for years the force of violent surf.

Site Importance:

International

National

Regional

Local

Unknown

Comment: Geologically, this area is part of an internationally important sequence of uplifted marine terraces (Geopreservation Inventory rating 'A').

Existing Threats:

Type: A

Comment: This coastline is prone to erosion and landslips which could threaten the landscape values in this area (pers obs).

Human Modification and Human Use: Type: J

Comment: This area is a traditional food gathering area for local Maori in the Ngati-Hine and Tangahoe sub-tribes (Taranaki Catchment Commission 1983).

Existing Protection: Type: D

Comment: This site is part of the Rural (Coastal Protection) Zone under the Hawera District Scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	<u>2</u>	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	<u>7</u>
Cultural	1	2	<u>3</u>	4	5	6	7
Historic	<u>1</u>	2	<u>3</u>	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Fleming C A, 1953. The Geology of the Wanganui Subdivision. New Zealand Geological Survey Bulletin 52.
- Hawera District Scheme.
- Taranaki Catchment Commission Report (1983) Study on seafood in South Taranaki.
- Chappell, J 1975: Upper Quaternary warning and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155.
- Pillons, B 1983: Upper Quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology II: 292-297.

Contacts:

- Nicholls M, Landscape architect, Department of Conservation Whangarei.
- Nga Rauru Tribe, contact Sue Tower, C/- Rangitaawhi Marae Trust, Patea ph 0623 8750, or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

- New Zealand Archaeological Association. Site Forms Record No Q21 131, 132, 133, 134, 137, 138, 152. Sites last visited 1962. Department of Conservation, Wellington,
- Historic Places Inventory Hawera County 1982 Q21 131, 132, 133, 134, 137, 138, 152

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Nowells Road Ponds

Site No: CRI 07 0059

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26205 61758

Date: 24.2.90

Brief Description of Site: This area consists of two sand dune lakes called Nowells Lakes. The lakes are approximately 4ha and are noted for their large size and close proximity to the coast. The adjacent land use is dairy farming.

Conservation Values:

Natural: C B H

Cultural:

Historic: B

Comment: Fifty two species of birds have been noted on these lakes including three black stilt (Himantopus novaezealandiae) which is an endangered species (Bell 1986) (M Davis pers. comm.). Australasian bittern (Botaurus stellaris poiciloptilus) and New Zealand dabchick (Podiceps rufopectus) which are both 'threatened' have also been recorded here (M Davis pers. comm.). These ponds support large populations of black shag (Phalacrocorax carbo novaehollandiae), white faced heron (Ardea novaehollandiae), pied stilt (Himantopus himantopus leucocephalus) and cattle egret (Bubulcus ibis coromandus) (Fauna Survey Unit, 1983). These ponds are also the breeding area for swan species (Cygnus spp), Canada goose (Branta canadensis), mallard duck (Anas platyrhynchos platyrhynchos) and other ducks (Anas spp) (Fauna Survey Unit, 1983) .

This area is a recommended area of protection in the Egmont PNA report (Bayfield and Benson 1986).

Close to this area is an archaeological site containing a coastal midden (NZ Archaeological Association Records).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is nationally important for the presence of two threatened species; Australasian bittern and New Zealand dabchick. This site has been identified as regionally important in Wetlands of Ecological and Representative Important (WERI). Although the endangered black stilt has been recorded on these lakes it is an infrequent visitor.

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type: -

Comment: Unknown

Existing Protection: Type:

Comment: None.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bayfield M, and Benson M, 1986. Egmont Protected Natural Areas Report. Department of Lands and Survey.
- Bell B D, (1986). The Conservation Status of New Zealand Wildlife Occasional Publication No. 12. New Zealand Wildlife Service, Department of Internal Affairs, Wellington.
- Fauna Survey Unit 1983. New Zealand Wildlife Service, Department of Internal Affairs, Wellington

Contacts:

- Davis M, Royal Forest and Bird Protection Society, Hawera
- Marsh N, Department of Conservation, Whanganui Field Centre
- Nga Rauru Tribe, contact Sue Tower, C/- Rangitaawhi Marae Trust, Patea ph 0623 8750, or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.

Recorded on Existing Databases:

1. WERI
2. SSWI
3. PNA
4. Geopreservation
5. HPT County Inventories
6. Other
7. None

Comments:

- SSWI - Unpublished data available at the Department of Conservation, Wanganui
- WERI - record title Nowell Road Ponds Date of survey 1983: Importance - regional.
- New Zealand Archaeological Association, Site Record forms, Department of Conservation, Wellington, Record No Q21, 99. Site last visited 1962.
- Historic Places Inventory Hawera County August 1982. Q21 99.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Hawera Oxidation Ponds and adjacent cliffs Site No: CRI 07 0060

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26190 61760

Date: 24.2.90

Brief Description of Site: This site consists of the Hawera oxidation ponds, which lie close to the coast, and are a series of three man-made ponds covering approximately 30ha. These ponds are surrounded by farmland.

Conservation Values:

Natural: C

Cultural:

Historic:

Comment: These ponds attract 57 different species of birds (M Davis pers comm). Up to 400 shoveler duck (Anas rhynchos variegata) have been recorded on these ponds and the ponds are also used by wintering waders and migrants such as cattle egrets (Bubulcus ibis coromandus) (M Davis pers. comm.).

On the adjacent cliffs a breeding colony of black shag (Phalacrocorax carbo novaehollandiae) have been recorded (M Davis pers. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area has local importance and has the potential for wader enhancement (M Davis pers. comm.).

Existing Threats:

Type: A

Comment: This section of coastline appears to be prone to erosion and landslips which could threaten the black shag colony (pers. obs.).

Human Modification and Human Use: Type: A

Comment: Three man made oxidation ponds have been built at this site.

Existing Protection: Type: D

Comment: This area is owned by the South Taranaki District Council and has been fenced (pers. obs.). This site is part of a larger area zoned rural (coastal protection) in the Hawera District Scheme.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Hawera District Scheme.

Contacts:

- Davis M, Member Ornithological Society of New Zealand, Hawera.
- Marsh N, Department of Conservation, Whanganui Field Centre.
- Nga Rauru Tribe, contact Sue Tower, C/- Rangitaawhi Marae Trust, Patea ph 0623 8750, or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Waihi Beach

Site No: CRI 07 0061

Recorders Name: Leonie Fechney

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26172 61765

Date: 24.2.90

Brief Description of Site: This is a retrograding coast and stony shore. Sandstone (Matemateaonga) and siltstone (Tangahoe) are extensive on the cliffs (M Nicholls pers. comm.).

The shoreline is generally inaccessible to the public (M Nicholls, pers comm.). The adjacent land use is pastoral farming.

Conservation Values:

Natural: E, H

Cultural:

Historic: B

Comment: Coastal herbfields consisting of the herb, Selliera radicans and New Zealand flax (Phormium tenax) dominate the area. The form, complex and character of the cliffs give visual identity to this area (M Nicholls pers. comm.).

This area also has within it a Maori pa site (New Zealand Archaeological Association Records).

This area is well known geologically, and the cliffs have a rich Waipipian base overlain by Haweran material. Fossil bivalves and gastropods are also present (Thomson 1917, Fleming 1953). This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappel 1975, Pillans 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces as well as being nationally important for the fossil bivalves and gastropods (Geopreservation Inventory Rating A and B).

Existing Threats:

Type: A

Comment:

This whole area is prone to erosion and landslips (N Marsh pers comm.).

Human Modification and Human Use: Type:

Comment: none

Existing Protection: Type: A, D

Comment: This area is zoned 'rural' (coastal protection) in the Hawera District Scheme. A strip fronting the foreshore is also protected as it is classed as "land reserved from sale".

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	<u>4</u>	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Chappel J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Fleming C A, 1953. Geology of the Wanganui Subdivision New Zealand
- Hawera District Scheme
- Pillans B. 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297
- Thomson J A, 1917. The Hawera series on the so-called "draft Fm" of Hawera. Trans. New Zealand Institute 49: 414-417.

Contacts:

- Fechney L, Department of Conservation, Wanganui
- Marsh N, Department of Conservation - Whanganui Field Centre
- Nicholls M, Landscape Architect, Department of Conservation, Whangarei
- Nga Raura Iwi, Contact Sue Tower, c/- Rangitaawhi Marae Trust, Patea, ph 0623 8750 or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.
- Taranaki Museum Archaeological Sites View.

Recorded on Existing Databases:

- | | | |
|---------------------------|----------------------------------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | |
| 6. <u>Other</u> | | |
| 7. None | | |

Comment:

- Geopreservation Inventory Record No DEF 173, 1983, record no. unknown for fossil information.
- New Zealand Archaeological Association. Site Record Forms, Department of Conservation, Wellington, Record No Q21 18. Site last visited 1959.
- Historic Places Inventory Hawera County 1982, Q21 18.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Waihi Beach (Denby Road end)

Site No: CRI 07 0062

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26166 61770

Date: 24.2.90

Brief Description of Site: This area consists of sedimentary sea cliffs (fossiliferous mudstone, shell beds and consolidated sands) overlain by tephra. An eroded gully leads into farmland.

Conservation Values:

Natural: B, E, F, G, H

Cultural:

Historic:

Comment: The vegetation in this area consists of sparse halophytes on coastal cliffs, shrubs and native herbs on the cliff tops and in the gully taupata (Coprosma repens) and sand coprosma (C. acerosa var.) (the prostrate Taranaki form) (pers. obs.).

This area is representative of this type of vegetation sequence (pers. obs.). The nationally rare (Given 1990) herb Leptinella dispersa subsp. rupestris is reportedly present (Druce 1972, Lloyd 1972).

Leptinella dispersa subsp. rupestris is only found in one other place in New Zealand outside of the Wanganui Conservancy so this rare plant is of national importance (Colin Ogle pers. comm.). This plant is also of scientific value because only single sex populations have been found, hence this species and this area are important for genetic research (D Lloyd pers. comm.).

At this site there is a zigzag track which runs from Denby Road to the beach. Coastal cliffs are exposed for several kilometres either side of this point. The cliffs have a rich Waipipian base overlain by Haweran material. Fossil bivalves and gastropods are also present (Thomson 1917, Fleming 1953).

This area is part of the South Taranaki uplifted marine terraces which forms a 20km wide coastal strip from Hawera to Wanganui. This site is internationally important as it represents New Zealand's most complete sequence of uplifted marine terraces (Chappel 1975, Pillans 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is part of an internationally important sequence of uplifted marine terraces as well as being nationally important for the fossil bivalves and gastropods (Geopreservation Inventory rating A and B). If Leptinella dispersa subsp. rupestris is still present then this would be the northern-most Taranaki occurrence of this rare plant (Lloyd 1972 and Given 1990) and thus it would also have national significance botanically.

Existing Threats:

Type: D

Comment: This area is subject to grazing which may threaten the existence of the rare plants .

Human Modification and Human Use: Type: H

Comment: A bulldozed track to the beach exists and this good access makes the place a popular visiting area. This beach is the nearest to Hawera with easy access.

Sandy Bay to the north of Waihi Stream is very popular for surfcasting (J Kawana pers comm.).

Existing Protection: Type: D

Comment: This area has a rural (coastal protection) zoning in the Hawera District Scheme. A strip of coast fronting the foreshore is also protected as it is classed "land reserved from sale".

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Comment:

- Chappel J, 1975. Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155
- Druce, AP 1972 (last revision 1989). Vascular plants on the Western Taranaki coast between Waitara and Hawera. Unpublished checklist no. 78. Botany Division, DSIR, Lower Hutt 24p.
- Fleming C A 1953. Geology of the Wanganui Subdivision New Zealand Geological Survey Bulletin 52: 271p.
- Given, D R 1990. Threatened plant list and local plant list. New Zealand Botanical Region (in draft) Land Resources DSIR, Christchurch.
- Hawera District Scheme.
- Lloyd D G, 1972. A revision of New Zealand Subantarctic and south American species of Cotula, Section Leptinella. New Zealand Journal of Botany 10. 277-372.
- Pillans B. 1983. Upper quaternary marine terrace chronology and deformation, South Taranaki, New Zealand Geology 11: 292-297
- Thomson J A 1917. The Hawera Series or the so-called 'Draft Fm' of Hawera. Trans. New Zealand Institute. 49: 414-417.

Contacts:

- Jack Kawana - Hawera surfcasting and Angling club.
- Lloyd D, Senior Lecturer, Botany - University of Canterbury, Christchurch
- Nga Rauru tribe: Sue Tower c/- Rangitaawhi Marae Trust, Patea, ph 0623 8750 or Tony Raimoana, 15 Elizabeth Street, Patea, ph 0623 8554.
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui

Recorded on Existing Databases:

1. WERI	2. SSWI	3. PNA
4. <u>Geopreservation</u>	5. HPT County Inventories	6. Other
7. None		

Comment: Geopreservation Inventory record no. FOS 314 1986. Record no. DEF 173 1983

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Underwater Reef

Site No: CRI 07 0063

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q21

Date: 24.2.90

Grid Ref: 26130 61720

Marine Map NZ 45
Port Taranaki

174° 9' Longitude
39° 40' Latitude

Brief Description of Site:

This area is a reef system approximately 6.5 kms off shore. The area contains abundant marine life (R Opie pers. comm.). The exact size of the area is unknown.

Conservation Values:

Natural: E,

Cultural:

Historic:

Comment: This area is the only reef system known to be located offshore from Ohawe beach. The reef is dived frequently and also boat fished (D Williams, R Opie pers. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area has yet to be assessed.

Existing Threats:

Type:

Comment: Unknown

Human Modification and Human Use: Type: I

Comment: Water based recreation namely fishing and SCUBA diving are activities that are common at this site (D Williams, R Opie pers. comm.).

Existing Protection: Type:

Comment: None

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Maps	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Contacts:

- Williams D, Ohawe Boating Club, Ohawe
- Opie R, South Taranaki Underwater Association, Hawera
- Nga Ruanui Tribe -
 - Cathy Horsfall, 7 Kauae Street, Mana ph 0624 8628
 - Rangiora Rongonui, Ngakaiwhakahaera o Nga Ruahine, Conservation and Water Rights Secretary, 15 Weld Street, Normanby ph 062 28486
 - Terry Whanau, 12 Karora Street, Ohawe Beach, via Hawera ph 062 87233
- Marsh N, Department of Conservation, Whanganui Field Centre

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations: TCPL Resources Limited have a petroleum prospecting licence nearby.

Accompanying Maps and Photographs:

Site Name/s: Waingongoro River Mouth - Ohawe Beach

Site No: CRI 07 0064

Recorders Name: Norm Marsh

Conservancy: Wanganui

Map No: Q21

Grid Ref: 26125 61792

Date: 24.2.90

Brief Description of Site: This area consists of a high cliff face at the mouth of the Waingongoro River (true right bank). This is the southern-most stony stream in Taranaki. Protected cliffs line the bank on the true right bank of the river and these cliffs are vegetated with secondary scrub of kawakawa (Macropiper excelsum) and mahoe (Meliccytus ramiflorus) (C Ogle pers. comm.). The cliffs facing the coast are very exposed and consist of sedimentary material such as mudstone, shell beds and consolidated sands overlain by tephra. Adjacent land use is pastoral farming. The size of this site is unknown.

Conservation Values:

Natural: B, D, F

Cultural:

Historic: B F

Comment: This area represents a rare example of coastal scrub in the region, which is protected against the river cliffs and is the only known location of a distinctive form of the native angelica (Scandia rosifolia) in Taranaki (C Ogle pers. comm.).

The site is representative for the presence of secondary scrub (C Ogle pers. comm.). Cliffs facing the coast are very exposed and prone to erosion hence are part of a fragile area (C Ogle pers. comm.). Midden remains which contained many bird bones, including bones of the Takahē (Notornis mantelli) (Reid 1978), moa (Pachynornis mappini), kakapo (Strigops habroptilus), huia (Heteralocha acutirostris), and the kokako (Callaeas cinerea) have been recorded from this site (Prickett, in Bulmer et al 1983). Upstream there is a Maori pa which is located on the stream bank (NZ Archaeological Association). On the cliff face is another pa site and adjacent to this site, on the true left bank of the river, two middens are sited (NZ Archaeological Association).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of regional importance due to the presence of coastal scrub and the notable occurrence of Scandia rosifolia (C Ogle pers. comm.).

Existing Threats:

Type: A, D

Comment: Erosion and landslips threaten the natural values of this site (pers. comm.) as do grazing stock.

Human Modification and Human Use: Type: A, H, J

Comment: This is a popular beach for swimming, recreational surfcasting and whitebaiting (J Kawana pers. comm.). A beach settlement exists here and there is a bulldozed access to the beach.

Reefs in this area are used by the Inuawai and the Umutahi hapus to gather seafood (Taranaki Catchment Commission 1983; K Kawana pers. comm.).

Existing Protection: Type: D

Comment: This site is part of the rural (Coastal Protection) zone under the Hawera District Scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	<u>3</u>	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	6	<u>7</u>
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Hawera District Scheme
- Prickett, N 1983: Waitotara Ki Parininihi: aspects of the archaeology of the Taranaki region in "A Lot Of Spadework To Be Done" edited by S Bulmer, R G Low and D G Sutton. New Zealand Archaeological Association Monograph No. 14 New Zealand Archaeological Association, Auckland.
- Reid B E, The History of the Takahe (*Notornis mantelli*). In Seminar on the Takahe and its habitat 1978. prepared and published by Fiordland National Park Board, Invercargill, New Zealand.
- Taranaki Catchment Commission (1983) Study on Seafood in South Taranaki.
- Archaeological Sites View Taranaki Museum.

Contacts

- Bourke S, member of Royal Forest and Bird Protection Society, Hawera
- Kawana J, member of Te Rangatapu Reserves Trust and the Hawera Surfcasting and Angling Club, Hawera
- Marsh N, Conservation Officer, Department of Conservation, Wanganui
- Nga Ruanui Tribe -
 - Cathy Horsfall, 7 Kauae Street, Mana ph 0624 8628
 - Rangiora Rongonui, Ngakaiwhakahaera o Nga Ruahine, Conservation and Water Rights Secretary, 15 Weld Street, Normanby ph 062 28486
 - Terry Whanau, 12 Karora Street, Ohawe Beach, via Hawera ph 062 87233
- Ogle C, Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

- New Zealand Archaeological Association. Site Record Forms. Department of Conservation, Wellington.
Record no Q21 74 pa site last visited 1961
Record no Q21 78 pa site last visited 1960
Record no Q21 75 midden site last visited 1960
Record no Q21 76 midden site last visited 1960
 - Historic Places Inventory. Hawera County. August 1982. Q21, 74, 75, 76, 78
-

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Kapuni Stream

Site No: CRI 07 0065

Recorder's Name: Colin Ogle

Conservancy: Wanganui

Map No: P21

Grid Ref: 25093 61796

Date: 25.2.90

Brief Description of Site: This site is in the vicinity of the Kapuni Stream mouth, which is surrounded by coastal cliffs of mudstone overlain by tephra layers. A small stack on the true left bank of the stream protects a small sand dune system. Also located at this site is an oxbow, or old streambed, which has flax in the old river bed itself and native scrub on the sides. Halophytes are present on the coastal cliffs (pers. obs.).

Conservation Values:

Natural: D E

Cultural: D

Historic: B

Comment: Pingao (Desmoschoenus spiralis = local) (Given 1990) is found at this site (S Bourke pers. comm.). This area has a small sand dune system, which is protected by a stack. This dune system is fragile/sensitive to change as its existence is only made possible by the presence of the stack. This formation provides an unusual landform (pers. obs.).

This area may have special value to the local Iwi and is of historic value in that two pa sites have been identified in this area (New Zealand Archaeological Association Records).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is nationally important due to the presence of pingao. In this assessment the biological criteria and cultural significance of pingao have been considered.

Existing Threats:

Type: A

Comment: Erosion threatens the existence of the small sand dune and its associated vegetation.

Human Modification and Human Use: Type: H

Comment: This site is used by recreational fisherman for surfcasting. The main catch is kahawai (Arripis trutta) and snapper (Chrysophrys auratus) (J Kawana pers comm). This area is the traditional food gathering area for the Ngati-manu Hiakau hapu (J Kawana pers comm).

Existing Protection: Type: D

Comment: Under the Waimate Plains District Scheme this site is protected by a Rural 3 Zone.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Hu. Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	<u>6</u>	7	1. Derived info. from existing literature and databases
Cultural	1	2	3	4	5	6	<u>7</u>	2. Derived info, as above and field check
Historic	<u>1</u>	2	3	4	5	6	7	3. Derived from existing maps and aerial photographs
Threats	1	2	3	4	5	<u>6</u>	7	4. Recent DOC survey including sampling and analysis
Human Mod & Use	1	2	3	4	5	<u>6</u>	7	5. Recent DOC survey excluding sampling and analysis
Protection	<u>1</u>	2	3	4	5	6	7	6. Experience
								7. Expert opinion

References

- Given D 1990. Threatened plant list and local plant list. New Zealand Botanical Region (in draft). DSIR Land Resources, Christchurch.
- Waimate Plains District Scheme.

Contacts:

- Bourke S. Member of the Royal Forest and Bird Protection Society, Hawera.
- Kawana J. Member of the Hawera Surfcasting and Angling Club, Te Rangatapu Reserves Trust.
- Marsh N. Department of Conservation, Whanganui Field Centre.

Nga Ruanui tribe:

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- Rangiroa Rongonui
(as above) Secretary
15 Weld Street, Normanby
Phone 062 28 486.
- Terry Whanau
12 Karora Steet
Ohawe Beach, via Hawera
Phone: 062 87233.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- New Zealand Archaeological Association Site Record Forms, Department of Conservation, Wellington.
Record No. P21 5. Site last visited 1960.
Record No. P21 6. Site last visited 1960.
- Historic Places Trust. Waimate West County Inventory (1982). Site number: P21 5 and 6.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Sutherland/Normanby Road ends

Site No: CRI 07 0066

Order Name: Colin Ogle

Conservancy: Wanganui

Map No: P21

Grid Ref: 25053 61803

Date: 25.2.90

Brief Description of Site: This area is characterised by steep mudstone cliffs with overlying sand and tephra. The slopes of the seacliffs have herbfield populations while the ledges are scattered with native shrubs (pers. obs.). The size of this site is unknown.

Conservation Values:

Natural: A B D F G H

Cultural:

Historic: B

Comment: These two areas of native coastal herbfields are among the most important botanical sites within the Conservancy. The area has a high degree of naturalness and is representative of what used to be the typical coastal vegetation. The presence of the native sea spurge Euphorbia glauca which is classified as 'vulnerable' and a small buttercup Ranunculus recens which is classified as 'indeterminate' (Given 1990), make this area of scientific value and national importance (pers. obs.). Other native plants found at these sites include the herb Oreomyrrhis (species unamed), native mint (Mentha cunninghamii), a native plantain (Plantago masoniae), taupata (Coprosma repens), and the shrub Coprosma acerosa (prostrate form) from the Sutherland Road end. The shrub Hebe elliptica var. elliptica has its only North Island occurrence between the Normanby Road end and Pihama, and Coprosma acerosa (prostrate form) also occurs here (pers. obs.). Land near both road ends have been proposed as scientific reserves (Bayfield and Benson 1986).

This site has historic values with the presence of two pa sites nearby (New Zealand Archaeological Association).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of national importance due to the presence of 'indeterminate' (Ranunculus recens) and 'vulnerable' Euphorbia glauca plant species (Given 1990).

Existing Threats:

Type: D C

Comment: The grazing of farmed animals is a threat to the native coastal herbfields as is the spreads of weeds such as boxthorn (Lycium ferocissimum) (pers. obs.).

Human Modification and Human Use: Type: A K

Comment: Quarrying at Normanby Road has severely damaged part of this site and parts have also been modified by agriculture (grazing of stock) and the dumping of rubbish (pers. obs.). There is also an outfall at Sutherland Road (pers. obs.).

Existing Protection: Type: D

Comment: This site has protected under a Rural 3 zone in the Waimate District Scheme.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	2	3
Historic	1	<u>2</u>	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bayfield, M A and Benson M A, 1986: Egmont Ecological Region. Survey report for the New Zealand protected natural areas programme. Department of Lands and Survey, Wellington. 97p.
- Given D R (1990): Threatened Plant List and Local Plant List New Zealand Botanical Region (draft). DSIR Land Resources. Christchurch.
- Waimate Plains District Scheme.

Contacts:

- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

Nga Ruanui tribe:

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 Phone: 0624 8628.
- Rangiroa Rongonui Ngakaiwhakahaera o Nga Ruahine
 Secretary
 15 Weld Street, Normanby
 Phone: 062 28486.
- Terry Whanau 12 Karoroa Steet
 Ohawe Beach, via Hawera
 Phone: 062 87233.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- New Zealand Archaeological Association Site Record Forms, Department of Conservation, Wellington.
Record no. P21 13. Site last visited 1964.
Record no. P21 14. Site last visited 1964.
- Historic Places Inventory. Waimate West County (1982). Site number: P21 13 and 14.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Kaupokonui Stream

Site No: CRI 07 0067

Revisers Name: Leonie Fechney

Conservancy: Wanganui

Map No: P21

Grid Ref: 25010 61817

Date: 25.2.90

Brief Description of Site: Sand dunes are present on true right bank of the river mouth and cover an area of approximately 50 hectares. The sand dune vegetation has been modified by adventitive plants, such as marram grass (Ammophila arenaria), but the sand binder Spinifex sericeus and mats of the native grass Zoysia minima are also present (C Ogle, pers. comm.).

Conservation Values:

Natural: B D E G

Cultural:

Historic: B

Comment: The presence of sand dunes at this site is unusual in the Egmont Ecological Region especially on the South Taranaki coast, where cliffs normally back the shore.

This site is of scientific value due to the presence of archaeological sites of the "Moa hunter" period. This site has been identified by Prickett (in Bulmer et al 1983), as containing a moa hunter midden and a village with a rectangular pit nearby. This site has revealed many bones of bird species, many of which are now extinct and these include the huia (Heteralocna acutirostris), the extinct crow (Palaecorax moriorum) and the giant rail (Aptornis otidiformis) to name but a few. Other birds that have been recorded here that are now extinct in the North Island include the takahe (Notornis mantelli), kakapo (Strigops habroptilus) and the little spotted kiwi (Apteryx owenii) (Prickett, in Bulmer et al. 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of regional value due to the scientific information from "moa hunter" middens that have been studied in this area (Prickett in Bulmer et al, 1983). It is likely to have additional natural values but the area has not been field-checked recently.

Existing Threats:

Type:

Comment: Shore based recreation is popular in this area. Marram grass is also present (C Ogle pers. comm.).

Human Modification and Human Use: Type: H

Comment: Recreational fishing is an activity that occurs in this area, especially on the true right hand bank of the Kaupokonui River mouth. The main catch consists of kahawai (Arripis trutta) and snapper (Chrysophrys auratus). The river is a popular site for whitebaiting (pers. obs.). This area becomes very popular during the summer months (J Kawana pers. comm.).

Existing Protection: Type: D

Comment: Under the Waimate Plains District Scheme this site is zoned rural 3.

Availability of Information:

Natural	<u>1</u>	<u>2</u>	3
Cultural	1	2	3
Historic	1	2	3
Threats	<u>1</u>	2	<u>3</u>
Human Mod. & Use	1	<u>2</u>	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Information regarding archaeology is well documented.

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Prickett N. "Waitotara ki Parininihi: aspects of the archaeology of the Taranaki region" in "A lot of Spadework to be Done". Edited by Bulmer S; Law R G; and Sutton D G. 1983. New Zealand Archaeological Association Monograph No. 14, New Zealand Archaeological Association, Auckland.
- Waimate Plains District Scheme.

Contacts

- Fechney L. Department of Conservation, Wanganui.
- Kawana J. Member Hawera Surfcasting and Angling Club.
- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.

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- Rangiroa Rongonui (as above) Secretary
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Phone: 062 28486
- Terry Whanau 12 Karora Street
 Ohawe Beach, via Hawera
 Phone : 062 87233

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- New Zealand Archaeological Association Site Record Forms, Department of Conservation, Wellington. Record No. P21 2, 3, 20
- Historic Places Trust Waimate West County Inventory (1982). Site number P21, 2 and 3.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Oeo Stream/Cliffs/Rawa Stream

Site No: CRI 07 0068

Responsible Name: Leonie Fechney

Conservancy: Wanganui

Map No: P21

Grid Ref: 25917 61847

Date: 25.2.90

Brief Description of Site: This site is a rugged piece of coastline with 25m cliffs. Dairy pasture with boxthorn hedges extends to the edge of the cliff tops. Patches of native vegetation are limited to the sides of near vertical cliff faces. The size of this site is unknown.

Conservation Values:

Natural: B D G

Cultural: A

Historic: D

Comment: Situated on the cliff top is a unique and fragile coastal herbfield containing Pimelea urvilleana. This plant species is special in that it is the food source for the moth Notoreas (unnamed species) (Bayfield and Benson 1986). The moth is one of a genus of 25 species which are spread throughout New Zealand and whose larvae feed on Pimelea species. This particular species is brightly coloured and day-flying and occurs in Taranaki and in Wellington where P. urvilleana is present (B Patrick pers. comm.). This moth is of high conservation and scientific value (B Patrick pers. comm.).

This area is the site of at least four major shipwrecks including the "Annie Wilson", the "Lizzie Bell", the "Manaia" and the "Marramarra" (Jardine 1948). This area has cultural value in that reefs are traditionally fished for kai moana (Taranaki Catchment Commission 1983).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is regionally important because it contains the moth Notoreas (unnamed sp) and its food source, Pimelea urvilleana. The moth is not widely distributed and it would be at risk if the food plant was reduced (B Patrick pers. comm.).

Existing Threats:

Type:

Comment: Unknown.

Human Modification and Human Use: Type: J K

Comment: Boatsheds chiselled into the cliff below the marae are present and the area is accessed by a flying fox or a series of ladders (N Marsh pers. obs.). Several access ladders are spread along this coast and this area is popular with surfcasters (N Marsh, pers. comm.). Seafood is also gathered from the reefs (Taranaki Catchment Commission 1983)

Existing Protection: Type: A D

Comment: There is a Section 58 strip along part of this area and a Maori Reserve surrounds the marae at Rawa Stream (T Wilson pers. comm.). Part of this site is Rural 3 Zone under the Waimate Plains District Scheme.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	<u>6</u>	7
Historic	1	2	3	4	5	<u>6</u>	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bayfield MA, and Benson MA, 1986. Egmont Ecological Region. Survey Report for the New Zealand Protected Natural Areas Programme. Department of Lands and Survey, Wellington 97p.
- de Jardine M, 1948. Shipwrecks On and Off the Taranaki Coast.
- Taranaki Catchment Commission (1983) "Study on Seafood in South Taranaki"
- Waimate Plains District Scheme.

Contacts:

- Fechny L. Department of Conservation, Wanganui.
- Marsh N. Conservation Officer, Department of Conservation, Whanganui Field Centre
- Patrick B. Conservancy Advisory Scientist, Department of Conservation, Dunedin.
- Wilson T. Department of Conservation, New Plymouth Field Centre.

Nga Ruanui tribe:

Cathy Horsfall Ngakaiwhakahaera o Nga Ruahine
 Conservation and Water Rights
 7 Kauae Street, Manaia
 Phone: 0624 8628

Rangiora Rongonui (as above) Secretary
 15 Weld St, Normanby
 Phone: 062 28486

Terry Whanau 12 Karora Street
 Ohawe Beach, via Hawera
 Phone: 062 87 233

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- PNA - site no. 160. Egmont PNA report. This area is a recommended area for protection.

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Puketapu Road

Site No: CRI 07 0069

Recorders Name: Colin Ogle

Conservancy: Wanganui

Map No: P21

Grid Ref: 25888 61870

Date: 25.2.90

Brief Description of Site: This site consists of boulder and gravel beaches at the base of lahar cliffs which rise to 30-40m (T Wilson pers. comm.). Pockets of loose material on ledges and slopes and hard flat surfaces on cliff tops gives the site diversity regarding aspect and terrain (pers. obs.). The size of this site is approximately 2 ha.

Conservation Values:

Natural: B D G

Cultural: A D

Historic: A B

Comment: This is one of the most important botanical sites in the Conservancy with nationally threatened species present. Vegetation includes the shrub taupata (Coprosma repens), New Zealand spurge (Euphorbia glauca which is vulnerable (Given 1990), cliffs with taupata, flax (Phormium tenax), karaka (Corynocarpus laevigatus), kawakawa (Macropiper excelsum), and cliff tops with Zoysia minima mats with 'rare' native herbs such as Crassula manaia, C. penduncularis (Given 1990), and Myosotis pymaea var. minutiflora (pers. obs.). This is the only known sympatric occurrence of the herb M. "minutiflora" with M. pymaea var. pymaea (A P Druce pers. comm.). This area has been recommended for protection under the Protected Natural Areas Programme (Bayfield and Benson 1986).

Also present in this area is the plant Pimelea urvilleana. This plant species is the food source and habitat for the moth Notoreas (unnamed species) (Bayfield and Benson 1986). This moth is one of a genus of only 25 moths which are spread throughout New Zealand and whose larvae specifically feed on Pimelea species. Notoreas is brightly coloured and day flying moth and it has a known distribution in Taranaki and in Wellington where P. urvilleana is present (B Patrick pers. comm.). This moth has a high conservation and scientific value (B Patrick pers. comm.).

This area has spiritual value to the Maori people and the reefs are traditionally fished for kaimoana (Taranaki Catchment Commission 1983). This area is historically significant with the Puketapu redoubt on the headland and a historic cemetery further inland (Topographical Map NZMS 260). Also present is a boatshed and ramp carved out of rock face (T Wilson pers. comm.). The historic pa of Papakaka Te Rangi is located at the Punehu Stream (New Zealand Archaeological Association Records).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is of national importance due to the presence of the rare native plant species Crassula manaia and C. penduncularis and the vulnerable Euphorbia glauca (Given 1990). It is also one of the finest examples of this type of vegetation in this conservancy (pers. obs.).

Existing Threats:

Type: C F

Comment: The spread of weeds, especially boxthorn (Lycium ferocissimum), and the encroachment of pasture grasses is a threat to the native plant species present in most of this area (pers. obs.). It should be noted that this area is farmed (dairy) to the cliff edge.

Quarrying has excavated a section out of the cliff top and this must not spread along the coast.

Human Modification and Human Use: Type: H J

Comment: This area is fished traditionally by Maori to gather kaimoana (Taranaki Catchment Commission 1983). It is also a popular area for surfcasting and diving (N Marsh and S Hornby pers. comm.).

Existing Protection: Type: A

Comment: A Section 58 strip backs the main Puketapu Beach and the redoubt on the headland is a Maori reserve. Both areas are farmed.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

- Bayfield M A, and Benson M A, 1986. Egmont Ecological Region. Survey Report for the New Zealand Protected Natural Areas Programme, Department of Lands and Survey, Wellington. 97p.
- Given DR (1990) Threatened Plant List and Local Plant List. New Zealand Botanical Region. (Draft) DSIR Land Resources, Christchurch.
- Taranaki Catchment Commission (1983). Study on Seafood in South Taranaki.

Contacts

- Druce A P. DSIR Land Resources, Lower Hutt.
- Hornby S. South Taranaki Underwater Club.
- Marsh N. Department of Conservation, Whanganui Field Centre
- Ogle C. Conservancy Advisory Scientist, Department of Conservation, Wanganui.
- Patrick B. Conservancy Advisory Scientist, Department of Conservation, Dunedin.
- Wilson T. Department of Conservation, New Plymouth Field Centre.

Nga Ruanui tribe:

- Cathy Horsfall Nga Kaiwhakahaera o Nga Ruahine
Conservation and Water Rights
7 Kauae Street, Manaia
Phone: 0624 8628
- Rangiora Rongonui (as above) Secretary
15 Weld Street, Normanby
Phone: 062 28486
- Terry Whanau 12 Karora Street
Ohawe Beach, via Hawera
Phone: 062 87233

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Content:

- PNA site number 138. Egmont PNA Survey. This site is recommended for protection.
 - New Zealand Archaeological Association Site Record Forms. Department of Conservation, Wellington. Record No. P21. 1.
 - Historic Places Inventory Egmont County. (1982). Site number P 21. 1
-

Other Considerations:

Accompanying Maps and Photographs:

Site Name/s: Taungatara Stream

Site No: CRI 07 0070

Recorders Name: Leonie Fehney

Conservancy: Wanganui

Map No: P20

Grid Ref: 25860 61904

Date: 24.02.90

Brief Description of Site: This site consists of patches of dune scrub amongst dairy pasture which is grazed to the cliff edge. Ironsand beaches are contained by cliff headlands and cobble/rock reefs. The size of this site is unknown.

Conservation Values:

Natural: B, C, D

Cultural: A

Historic: A, B

Comment: This area is the habitat of the native herb Crassula manaia (Druce and Sykes 1988) which is classified as being a rare plant (Given 1990). Julians Pond which was a dune lake, covering approximately 1ha, this pond is now a cowshed and piggery settling pond and is also situated in this area (Wetlands of Ecological and Representative Importance (WERI)). The pond is used by wildlife (WERI). Waterfowl, waders, cattle egret (Bulbucus ibis), and the threatened dabchick (Podiceps rufopectus) have all been observed here (D Medway and M Davis pers comm, Bell 1986). This site has traditional values to the local maori people (Taranaki Catchment Commission 1983). Of historic value is the Mataikahawai pa which is situated in this area (New Zealand Archaeological Association Records).

This site is also characterised by an unusual rock peninsula. This razor back peninsular extends seawards for approximately 90m (T Wilson per. comm.).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is of national importance due to the presence of the native herb Crassula manaia which is a rare plant (Given 1990), and for the threatened dabchick (Podiceps rufopectus) (Bell 1986).

Existing Threats:

Type: C, E

Comment: Julians pond is subject to agricultural pollution and introduced plants (WERI).

Human Modification and Human Use: Type: H, I, J

Comment: Traditional seafood gathering (Taranaki Catchment Commission 1983), surfcasting and scuba diving are all popular recreational activities at this site (N Marsh pers comm).

Existing Protection: Type:

Comment: None

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

- Bell, B D 1986: The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No 12.
- Druce, A P; Sykes, W R; 1988. A new species of Crassula L. in New Zealand. New Zealand Journal of Botany 26: 477-8.
- Given, D R 1990: Threatened Plant List and Local Plant List. New Zealand Botanical Region. Vascular plants (draft). DSIR, Land Resources Christchurch.
- Taranaki Catchment Commission (1983). Study on seafood in South Taranaki.

Additional References

- Smith, P. History and Traditions of the Taranaki Coast. Thomas Avery Ltd, 562p.

Contacts:

- Davis M - Royal Forest and Bird Protection Society, Hawera.
- Fehney L - Department of Conservation, Wanganui.
- Marsh N - Department of Conservation, Wanganui.
- Medway D - Ornithological Society of New Zealand, New Plymouth Taranaki.
- Ratahi D - Taranaki Iwi boundary is the Taungatara North to the Moutoti.
- Wilson T - Department of Conservation, New Plymouth Field Centre.

Recorded on Existing Databases:

- | | | |
|--------------------|----------------------------------|-----------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment:

- WERI - record title Jilians Pond, date of survey: 1983, Classification: Regional.
- SSWI - unpublished data available at the Department of Conservation, Wanganui.
- HPT County Inventory - Egmont County. September 1982 P20 - H-114.
- New Zealand Archaeological Association. Site record forms. Department of Conservation, Wellington. Record No. 114. Site last visited 1979.

Other Considerations: The desire to improve access to peninsula is a potential threat.

Accompanying Maps and Photographs:

Site Name/s: Opunake (Heimama Stream)

Site No: CRI 07 0071

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P20

Grid Ref: 25835 61945

Date: 24.02.90

Brief Description of Site: This 5km length of coast is a geologically varied area and includes the township of Opunake (Population: 1800). The area includes coastal cliffs 30-40m high, with sand beaches in the bays. The surrounding land is intensely farmed and rich in historic sites. This area has been the scene of considerable conflict during the Land Wars and was attacked from the sea several times. The town is a rural service town with a modern dairy factory.

Conservation Values: Natural: B, C, D, G, H Cultural: A C D Historic: A D B

Comment: This area is nationally important geologically as Opunake and Middletons Bay show a complete lahar sequence of Opua formation with older ashes and lahar. Occasional sections in both bays contain buried forest and lignite (Ref 12).

There are three sites within this area which provide locally and regionally important habitat for waterfowl (Ref 13). A nationally rare (Ref 11) herb Crassula manaia, is present at the Heimama Stream (Ref 1).

The area has strong historic and cultural significance. An attack at Te Namu began the Land Wars (Ref 2, 3 and 4), and the area has within it at least six pa sites of spiritual significance, two cemeteries, a military site, a petroglyph and a canoe launch race (Ref 2). Ten ships have been wrecked on the reefs in this area, with the remains of the "Lord Worsley" still frequently visited by snorkellers and divers (Ref 5 and 6).

The popular "Opunake Walkway" follows the coast and this walkway offers good views of the general area, and attractive beaches (Ref 7). Surfcasting and Kaimoana gathering have decreased in popularity due to water pollution. Fishing by boat is still popular offshore (Ref 8).

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important geologically, historically and botanically (see conservation values above).

Existing Threats: Type: A, C, E, G, H, J, L

Comment: As a mixture of 'erosion control' and reclamation, a quantity of concrete and rubble has been dumped on the foreshore at Middletons Bay (Ref 8). The water in the bay is already polluted from sewerage and dairy factory outfalls which are pumped untreated into Middleton Bay (Ref 9). This same bay has a series of haphazardly constructed sheds. A marine farming proposal, which involved a water intake from a bay classed as "unsuitable for collecting shellfish" was rejected. Noxious weeds and pasture grasses are a threat to the rare coastal herbs (Ref 8).

Both Middleton and Opunake Bay have a history of structures being built out into the sea, and then being abandoned, leaving un-attractive ruins of concrete and steel (Ref 10).

Human Modification and Human Use: Type: A, B, E, F, H, I, J

Comment: Considering that the area receives relatively heavy human use, physical modification has been kept to a minimum. However, the water quality of the area is low due to the discharge of effluent.

commercial fishers and many amateurs operate from Middleton's Bay, where there is a good boat club ramp. The town sewer outfall discharges into Middleton's Bay, and an outfall station is visible on the point. The bay also has an assortment of untidy boat sheds. The area is especially popular in summer, and receives all manner of users despite the contamination of water by sewerage. A popular walkway follows the coast and offshore areas have good diving and snorkelling.

The Egmont Dairy company factory has an outfall in Namu Bay. Opunake Bay hosts a popular motor camp and domain, and there is a broken and derelict breakwater, as well as piles and a boat ramp on the northern point. Roads, tracks and pipelines cut down from the cliffs in an obtrusive manner at Middleton's and Opunake Bays.

Existing Protection: Type: C, I

Comment: A local domain and camp, small Maori reserve and Section 58 strip offer some protection from development. Te Namu is a reserve, however the ownership is not documented.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Historic sites are well documented as are the shipwrecks. Little environmental information is available. Subtidal life is generally covered fairly comprehensively as it is nearby the Maui A development.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Druce A P, Sykes W R. 1988. A new species of Crassula L. in New Zealand. New Zealand Journal of Botany 26: 477-8.
2. Archaeological Assoc. Records, Taranaki Museum. Filekeeper: Roger Fyfe.
3. Griffin E M. 1910: Tales of Te Namu and Hori Teira: - Taranaki Newspapers.
4. Smith, S Percy: 1910 History of Traditions of the Maori of the West Coast, prior to 1849". Thomas Avery Ltd.
5. Barry Hartley. 12A Ronald Street, New Plymouth - Personal inventory (unpublished) of Taranaki shipwrecks.
6. de Jardine M. Shipwrecks on and off the Taranaki Coast. Manuscript in New Plymouth Library.
7. NZ Walkways pamphlet "Opunake Walk", Opunake District Promotion Committee. Department of Lands and Survey.
8. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
9. Taranaki Area Health Board - Objection to the renewal of the Water Right to discharge sewerage (June 1990).
10. Government files - Ministry of Transport, Marine files at Department of Conservation, New Plymouth Field Centre.
11. Given D. 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
12. Neall V E. 1979: Sheets P19, P20, P21: New Plymouth, Egmont and Manaia, Geological Maps of New Zealand, 1:50,000 DSIR, Wellington.
13. Fauna Survey Unit. New Zealand Wildlife Service, Department of Internal Affairs, Wellington.

Additional References

Egmont County staff
Egmont District Scheme

Contacts:

Maori contact - Dianne Ratahi Box 4160, New Plymouth.
Local Contact - Roger Drummond, 1 Hector Place, Opunake (Commercial Fisherman).

Recorded on Existing Databases: All searched.

1. <u>WERI</u>	2. <u>SSWI</u>	3. PNA
4. <u>Geopreservation</u>	5. <u>HPT County Inventories</u>	6. Other

Comment:

- WERI - Record name Julians Ponds: date of survey 1983, Significance : Regional. Waiaua River and L. Waiaua - Significance: Local
 - SSWI - unpublished data available at the Department of Conservation, Wanganui and New Plymouth.
 - HPT - Egmont County Inventory Site number P20 18, 19, 20, 74, 76, 90, 96, 105, 106.
 - Geopreservation Inventory - Record name - Opunake Cliffs, 1988. Importance: National.
-

Other Considerations: Treating the town sewerage would immediately make the area more attractive to the public. If the Middleton's Bay sheds and foreshore were to be tidied up and further development rationalised, this bay would have a great potential.

Accompanying Maps and Photographs:

Site Name/s: Arawhata Stream

Site No: CRI 07 0072

Revisers Name: Colin Ogle

Conservancy: Wanganui

Map No: P20

Grid Ref: 25792 61982

Date: 24.02.90

Brief Description of Site: This area consists of a coastal stream mouth.

Conservation Values:

Natural: B, D, G, H

Cultural: A

Historic:

Comment: This area is the habitat of the herb Crassula manaia which is a nationally rare (Ref 2) species (Ref 1).

Reefs are present offshore, but this area is largely unknown and requires survey.

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important due to the presence of the threatened herb Crassula manaia (Ref 2).

Existing Threats:

Type: C

Comment: Although this area is largely unknown, invasive plants and grasses are present and may threaten the existence of this tiny rare plant.

Human Modification and Human Use: Type:

Comment: This area probably receives low to moderate use for fishing and the gathering of Kaimoana.

Existing Protection: Type: C

Comment: This area is a local purpose reserve.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Further investigation required.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Druce, A P and Sykes, W R. 1988. A new species of Crassula L. in New Zealand. New Zealand Journal of Botany 26: 477-8.
2. Given, D. 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.

Maori Contact

Dianne Ratahi, PO Box 4160, New Plymouth.

Recorded on Existing Databases: All searched

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

Other Considerations: This area requires further investigation.

Accompanying Maps and Photographs:

Site Name/s: Okahu-Oaonui

Site No: CRI 07 0073

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P20

Grid Ref: 25765 61040

Date: 24.02.90

Brief Description of Site: This area represents an unspoilt and little modified section of coast stretching for 9km. It is characterised by rock and cobble reefs rising to steep sandy beaches and dunes. The dune scrubland immediately behind the beach is intermixed with rough pasture. The Oaonui dune area is backed by the massive Oaonui gas production station.

Conservation Values: Natural: A, B, C, D, E, F, G, H Cultural: A, B, C Historic: A, D

Comment: This whole stretch of coast has high natural and aesthetic values, and is largely unmodified by human activities (Ref 1). Areas of the sandbinding plant Pingao (Desmoschoenus spiralis), (locally important, Ref 10) are scattered along the foredunes, intermixed with introduced marram grass (Ammophila arenaria) (Ref 1). Oaonui is recorded as having the best dune vegetation in the Egmont Ecological Region (Ref 4). Stream bank vegetation includes the herb Leptinella squalida (Ref 5).

There is an important migratory wader habitat at Kahui Road, with species commonly recorded here, being sandpipers (various species), godwits (Limosa sp.) and knots (Calidris sp.) (Ref 2). Other species include the threatened (Ref 7) banded dotterel (Charadrius bicinctus bicinctus) and the rare (Ref 7) variable oystercatcher (Haematopus unicolor) (Ref 2). A black-backed gull (Larus dominicanus) colony is also present here (Ref 4). Green gecko (Naultinus elegans elegans) have been recorded in the surrounding scrubland (Ref 3).

The area is noted as a regionally significant dune field in the National Geopreservation Inventory, due to the presence of relatively unmodified coastal sand dunes.

The area includes several pa and occupation sites and a spiritually significant site is located at Oaonui. The remains of the ship "Northern Monarch" lie offshore (Ref 6).

Recreational use includes surfing, the gathering of kaimoana, surfing (including windsurfing) and using 4x4 motorbikes (Ref 1).

Site Importance: International National Regional Local Unknown

Comment: This area is internationally renowned for surfing, and particularly windsurfing (Ref 9). The presence of rare migratory and wading birds and the best dune vegetation in the Ecological Region make this site of national importance zoologically (Ref 7) and regionally important botanically (Ref 4).

Existing Threats: Type: C, D, M

Comment: Introduced plants are invading the dunes these include blackberry (Rubus fruticosus agg.) and gorse (Ulex europaeus). Rabbits and stock graze the dunes and particularly impact on pingao.

As the Maui platform is offshore two gas condensate pipelines come ashore from the main platform at Oaonui, the area is threatened by the risk of an oil spill (Ref 1). In the past, Kaimoana reportedly "tasted funny" but investigation has concluded that there was no impact (Ref 8).

Human Modification and Human Use: Type: E, I, J

Comment: Internationally known for its windsurfing and windsurfers, the entire coast here is popular with surfers, picnickers and other passive users (birdwatching at Kahui Road). The Oaonui production site is hidden from view once on the beach and the pipelines are visually unobtrusive as they are buried beneath the sand. Kaimoana is collected and the streams are used for catching whitebait. The Taranaki Catchment Commission has planted large areas of marram grass on the Oaonui dunes.

Existing Protection: Type: A, C, I

Comment: A small area of local purpose reserve extends between Arawhata and Tai Roads. A huge amount of coast and seabed is protected due to the Ministry of Transport regulations which prevent fishing and anchoring because of the pipelines however this is not enforced. The Department of Conservation owns most of the Oaonui dunes and a PNA area is fenced from stock.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Extensive sub-tidal work has been carried out for the Maui Environment Impact Assessment.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
2. Ornithological Society Records, Taranaki Museum (1987-89).
3. Ron Lambert. Director, Taranaki Museum (pers. obs.).
4. Bayfield M A, and Benson M A, 1986: Egmont Ecological Region PNA Report. Department of Lands and Survey.
5. Colin Ogle, Conservancy Advisory Scientist, Department of Conservation, Wanganui.
6. Archaeological Association Records, Taranaki Museum. Filekeeper: Roger Fyfe.
7. Bell D, 1986 "The Conservation Status of New Zealand Wildlife" New Zealand Wildlife Service, Department Internal Affairs, Wellington Occasional publication No. 12: 103p.
8. Dianne Ratahi. PO Box 4160, New Plymouth (Taranaki iwi contact).
9. T Smithers (pers. obs.) Cnr Croydon and Main Roads, Oakura (surfing/windsurfing magazines).
10. Given D, 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.

Additional Reference

Ministry of Transport files - held at Department of Conservation, New Plymouth.
 Department of Lands and Survey file 13/304, held at Department of Conservation, New Plymouth.
 Taranaki Catchment Board reports
 Maui Platform pipeline EIA Reports and monitoring
 Kibblewhite A C, (co-ordinator). 1982. "Maui Development Environmental Study, Report on Phase 2 1977 - 81" Prepared by University of Auckland for Shell BP Todd Oil Services Ltd.
 Druce A P, 1972. Vascular Plants on the Western Taranaki Coast between Waitara and Hawera. Unpublished checklist - No. 78. Botany Division, DSIR, Lower Hutt.

Recorded on Existing Databases: All checked.

- | | | |
|---------------------------|----------------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | |
| 6. Other | 7. None | |

Content:

- Geopreservation Inventory - Record Number LAN 344 Oaonui Dune fields. 1988.
 - PNA: Egmont PNA Report 1986 site number 158. Importance: Regional.
 - HPT Egmont County (1982) P20 Site numbers 71, 72, 73.
-

Other Considerations: The dune systems north of Oaonui require adequate fencing and weed control.

Accompanying Maps and Photographs: Engineers reports and subtidal information held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Tipoka Road

Site No: CRI 07 0074

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P20

Grid Ref: 25753 61111

Date: 24.02.90

Brief Description of Site: A cluster of baches line the dune tops south of Tipoka Road. The area is in rough pasture, undulating, roughly fenced and with boxthorn (*Lycium ferocissimum*) hedges. The Waitotoroa River is of considerable size for the area. Reef and cobble/sand beaches extend to the north, while moderate-sized dune fields extend to the south. This site extends over a length of 4km of coastline.

Conservation Values:

Natural: A B F H

Cultural: A C

Historic: A, D

Comment: There are small areas of coastal herbfield at the mouth of the Waitotoroa Stream (Ref 1). An ancient canoe race is evident on the north side of the point and a stockaded village occupied an adjacent site, with Maori living there permanently until 1950 (Ref 2). Four or five cottages still remain and are well kept (Ref 1).

Pingao (*Desmoschoenus spiralis*) (locally important, Ref 4) is present on the dunes to the south (Ref 1). This area is a generally unmodified coast, with high natural, landscape and aesthetic value. Kaimoana and whitebait are harvested (Ref 1). The "Tamara S" was wrecked near here in 1974, though no debris is evident (Ref 3).

The area is internationally important geologically as it is part of an extensive area covered by volcanic debris avalanche deposit characterised by extensive mound field landforms. This formation is considered to be internationally important (Geopreservation Inventory 1988).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The area is internationally important geologically (Geopreservation Inventory rating 'A'). However the significance of its historic and biological values is unknown.

Existing Threats:

Type: J K

Comment: Motorbikes and offroad vehicles are damaging dunes and vegetation to the south. Huge amounts of rubbish including car bodies and milking machinery are dumped at the road end (Ref 1).

Human Modification and Human Use: Type: A I J

Comment: The baches at the road end and several camp sites indicate some recreational use. Fishing, whitebaiting and seafood gathering all occur at this site. There is a four wheel drive access track to the coast through farmland and large amounts of rubbish have been dumped here.

Existing Protection: Type: I

Comment: The areas of Maori Reserve provide some degree of protection from development.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Needs further survey work.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
2. Archaeological Association records, Taranaki Museum, Filekeeper: Roger Fyfe.
3. Taranaki Daily News 9-12-1974.
4. Given D. 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
5. Neall V E. 1979. Sheets P19, P20, P21; New Plymouth, Egmont and Manaia. Geological maps of New Zealand, 1:50,000. New Zealand DSIR, Wellington.

Contact:

Milton Hohaia, Coast Road, Pungarehu.

Recorded on Existing Databases: All checked.

- | | | |
|--------------------|---------------------------|--------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | |
| 6. Other | 7. None | |

Comment:

- Geopreservation Inventory-Pungarehu (1988). Importance: International.
- HPT Egmont County Inventory (1982), site numbers: P20 95, 98, 102.

Other Considerations: Removal of the rubbish would enhance the area and discourage others from using the area as a dump.

Accompanying Maps and Photographs:

Site Name/s: Cape Egmont

Site No: CRI 07 0075

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P 20

Grid Ref: 25750 61140

Date: 24.02.90

Brief Description of Site: The area comprises extensive offshore boulder reefs, with some pinnacles, and gradually shallows to boulder tidal reefs and cobble beaches. A low bank of 2-3m, separates the tidal land from the surrounding flat to undulating dairy pasture. Boxthorn (Lycium ferocissimum) hedges predominate. A focal point is the Cape with its lighthouse which attracts a small number of tourists. The Department of Conservation owns an area of land surrounding the lighthouse which is suitable for recreational development. This site covers approximately 5km of coastline, and an area of some 200ha offshore.

Conservation Values: Natural: A, B, D, E, F, H Cultural: A C Historic: A, F

Comment: Three major ocean currents pass this point and intersect at differing times of the year resulting in interesting marine life (Ref 1). There are some unusual pinnacles offshore. This area has been little modified below high tide level and the water quality is very good (Ref 2). Kaimoana are harvested in this area and the popular species include paua, mussels and pupu (winkles) (Ref 2 and 5). Areas of coastal herbfield extend from Cape Egmont to the Otahi Stream, and the shore spurge (Euphorbia glauca), a nationally vulnerable species is present (Ref 6 and 2).

The Lighthouse is an historic building, and it is New Zealand's oldest lighthouse (Ref 4). The remains of a redoubt at the Cape are evident and a small cemetery and at least one petroglyph are found to the south.

This area is internationally important geologically in that it forms part of a well-preserved geomorphic surface of volcanic debris avalanche deposit which is characterised by a mound field (Ref 7).

Site Importance: International National Regional Local Unknown

Comment: The extensive mound field landform present in this area is rated as internationally significant in the Geopreservation Inventory. This area also has features of national importance such as the historic lighthouse and its botanical value, eg Euphorbia glauca (Ref 2 and 4)

Existing Threats: Type: D J M

Comment: Seismic surveying and oil prospecting is currently taking place in this area. Rubbish is dumped over the banks onto the beach and cattle graze coastal areas and its associated vegetation (Ref 2).

Human Modification and Human Use: Type: A, I, K

Comment: There is an above average amount of vehicular traffic at the road end due to the lighthouse being a focal point. This area is also a popular seafood gathering spot while recreational and commercial fishing takes place offshore (Ref 2). The area is farmed to the mean high water spring.

Existing Protection: Type: A, I

Comment: A 12 hectare recreational reserve is owned by the Department of Conservation and surrounds the lighthouse though this is currently leased out for grazing. Physical development of the land immediately above high tide could be managed by the Crown ownership of the Section 58 strip and legal road strips. Four Maori Reserves are present in this area.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Although kaumatua know a great deal of the history and traditions of the area, it has not been well documented.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Kibblewhite A C, (co-ordinator) 1982. Maui Development Environmental Study - Report on Phase Two 1977-1981. Prepared by Auckland University for Shell BP and Todd Oil Services Ltd.
2. Thelma Wilson, Senior Conservation Worker, New Plymouth Field Centre (pers. obs.).
3. Archaeological Association Records, Taranaki Museum, New Plymouth, Filekeeper: Roger Fyfe.
4. Government files, including Lands and Survey and Ministry of Transport - held at Department of Conservation New Plymouth Field Centre.
5. Roy Komene, 14 Kowhai Street, New Plymouth.
6. Given D. 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
7. Neall V E, 1979. Sheets P19, P20, P21: New Plymouth, Egmont and Manaia. Geological Maps of New Zealand, 1:50,000 New Zealand DSIR, Wellington.

Additional References:

- Smith S Percy, 1910. "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.
- Ellison E. 1987. Sacred Stone Links Taranaki and Otago - Historic Places in New Zealand No. 19: 7-11.

Contacts:

- Maori Contact: Milton Hohaia, Coast Road, Pungarehu.
- Local Contact: The Ex-lighthouse keeper still lives on site at the Cape.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

- Geopreservation Inventory - record name Pungarehu - 1988. Importance: International.
- HPT - Egmont County Inventory 1982. Site numbers: P20 - 46, 95, 98, 102, 107.

Other Considerations: The general area is being investigated for a possible marine reserve. Most land in this area is confiscated Maori land.

Accompanying Maps and Photographs:

Site Name/s: Warea River

Site No: CRI 07 0076

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P20

Grid Ref: 25769 61180

Date: 24.02.90

Brief Description of Site: This area is a 3km length of low-lying coastline, characterised by extensive, gently sloping boulder and cobble reefs and beaches. A low 2m bank separates these beaches from the dairy farmland adjacent. A large bay at Bayly Road is partially sheltered by an offshore reef, and is occupied by the Cape Egmont Boat Club building and concrete boat ramp.

Conservation Values: Natural: A, B, C, F, H Cultural: A, C, D Historic: A, B, C

Comment: Seabirds observed using this section of coast include the rare whimbrel (Numenius sp) and the threatened reef heron (Egretta sacra sacra) (Ref 1 and 8). A small herbfield contains specimens of the rare herb Crassula manaia (Ref 7). Although little indigenous vegetation remains, the marine environment is little modified, and water quality and clarity is generally good (Ref 1).

This area is internationally important geologically as it is the most extensive well-preserved geomorphic surface of a volcanic debris avalanche deposit in New Zealand (Ref 9).

The Warea River mouth area has high cultural and spiritual values (Ref 3) and was the site of an early mission station (Ref 4). Records show this as the location of a large Maori village which was destroyed by early European invasion (cannon attack). Several other pa sites and a redoubt are still evident. Petroglyphs, midden remains, earth ovens and stone sinkers have been recorded from here (Ref 5).

The area has good fishing and considerable Kaimoana is gathered here (Ref 1 and 3). The modern boat ramp is an enhancement of an older canoe launching site (Ref 3).

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important botanically for the presence of a rare plant, and internationally significant geologically (Geopreservation Inventory rating of 'A'). It is also of great importance to the Taranaki Maori.

Existing Threats: Type: J, M

Comment: Rubbish dumping over the bank onto the foreshore at Bayley Road is a problem. Seismic surveying and oil prospecting is taking place in the area.

Human Modification and Human Use: Type: A, B, I, J

Comment: The area is becoming more popular and the boat club rooms have been recently expanded. The ramp is a long, low-angle, concrete structure with associated poled channel. Seafood gathering and commercial crayfish potting occurs in this area. The seaside cottages present are believed to be on Maori Reserve. This area is also popular for surfing and windsurfing.

Existing Protection: Type: I

Comment: A Maori reserve is present but offers minimal protection to the area.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	<u>1</u>	<u>2</u>	3
Historic	1	<u>2</u>	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Some further assessment of Crassula manaia is needed.
Local cultural and historic knowledge has not been written down.

Sources of Information:

Natural	<u>1</u>	2	3	4	5	<u>6</u>	<u>7</u>
Cultural	<u>1</u>	2	3	4	5	<u>6</u>	<u>7</u>
Historic	<u>1</u>	2	3	4	5	<u>6</u>	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
2. Colin Ogle, Conservancy Advisory Scientist, Department of Conservation, Wanganui.
3. Roy Komene (Taranaki Iwi), 14 Kowhai Street, New Plymouth.
4. P Smith, 1910. History and Traditions of the Taranaki Coast', Thoma Avery Publications.
5. Archaeological Association Records, Taranaki Museum. Filekeeper: Roger Fyfe.
6. Druce A P, and Sykes W R. 1988. A new species of Crassula L in New Zealand. New Zealand Journal of Botany 26: 477-8.
7. Given, D. 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
8. Bell B. 1986. The conservation status of New Zealand wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No 12: 103p.
9. Neall V E, 1979. Sheets P17, P21: New Plymouth, Egmont and Manaia. Geological maps of New Zealand, 1:50,000, New Zealand DSIR, Wellington.

Additional References:

Government Files - Ministry of Transport, held at Department of Conservation, New Plymouth Field Centre.
Carrington's original survey map - held at Taranaki Museum.

Contacts:

Maori contact: Milton Hohaia, Coast Road, Pungarehu.
Local Contacts: G Snowden (Boat Club) Lower Pitone Road, RD4, New Plymouth.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment: Geopreservation Inventory. Record name: Pungarehu (1988) importance: International
HPT Egmont County Inventory (1982) Site number P20, 12, 17, 80, 92.

Other Considerations: Land based or inshore oil prospecting is a probability.

Accompanying Maps and Photographs:

Site Name/s: Stent Road

Site No: CRI 07 0077

Recorders Name: Thelma Wilson/Colin Ogle

Conservancy: Wanganui

Map No: P19

Grid Ref: 25773 62204

Date: 23.02.90

Brief Description of Site: This 3km section of coast contains one of the most important botanical sites in the Wanganui Conservancy. Coastal herbfields are sited between pasture and a slowly eroding coastline.

Conservation Values:

Natural: A, B, D, F, G, H Cultural:

Historic:

Comment: Immediately above the high tide level, the lahar terrace is surfaced with a turf of Zoysia minima and other native herbs. The rare (Ref 4) herb Crassula manaia is at its northern limit here, and is endemic to the Egmont-Waverley Coast. Another herb also present in this area is myrrh Oreomyrrhis sp. (unnamed) which is confined to the Egmont coast in the North Island. The 'forget-me-not' Myosotis pygmaea var. 'minutiflora' is also at its northern limit, and Plantago triandra var (P. masoniae) also occurs here. Tiny patches of herbfields are dotted along this section of foreshore (Ref 1 and 2).

Although the area is popular with surfers, only its botanical values are well known (Ref 3).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important due to the presence of the rare (Ref 4) herb Crassula manaia.

Existing Threats:

Type: A, C, D, K

Comment: As the areas are quite small, a specific point impact could be severe, such as vehicle use in wet weather, cattle trampling, dung enrichment, and the spread of weeds especially grasses. The coast adjacent is slowly eroding (Ref 1 and 3).

Human Modification and Human Use: Type: I, J

Comment: Dairy farming is intensive and offshore is a very popular surfing area. Surfers have dug a rubbish pit and built a bonfire area and cars park on part of the herbfield. The herbfield could also be treated by the planting of shelter belts. Some kaimoana is also collected from the reefs in this area (Ref 3).

Existing Protection: Type: I

Comment: Parts of the herbfield are legal road (unformed) however, the remainder is private property. this area is a recommended area for protection under the Protected Natural Areas Programme.

Availability of Information:

Natural	<u>1</u>	<u>2</u>	<u>3</u>
Cultural	<u>1</u>	<u>2</u>	<u>3</u>
Historic	<u>1</u>	<u>2</u>	<u>3</u>
Threats	<u>1</u>	<u>2</u>	<u>3</u>
Human Mod. & Use	<u>1</u>	<u>2</u>	<u>3</u>
Protection	<u>1</u>	<u>2</u>	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	6	<u>7</u>
Cultural	1	2	3	4	5	6	<u>7</u>
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Habitat Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Prevention	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Colin Ogle, Conservancy Advisory Scientist, Department of Conservation, Wanganui.
2. Bayfield MA and Benson MA 1986 "Egmont Ecological Region PNA Report", Department of Lands and Survey.
3. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
4. Given D, 1990. Threatened Plant List and Local Plant List, New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.

Maori Contact:

Milton Hohaia, Coast Road, Pungarehu.

Additional References:

- Roy Komene, 14 Kowhai Street, New Plymouth.
- Smith, S Percy, 1910 "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.
- Department of Lands and Survey Files (13/274) held at Department of Conservation, New Plymouth.
- Druce, A P. and Sykes, W R: 1988 A new species of Crassula L. in New Zealand. New Zealand Journal of Botany 26: 477-8.

Recorded on Existing Databases: All checked

- | | | |
|--------------------|---------------------------|---------------|
| 1. WERI | 2. SSWI | 3. <u>PNA</u> |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

PNA - Bayfield and Benson (1986) Egmont PNA

Other Considerations: Protection options should be investigated as soon as possible.

Accompanying Maps and Photographs:

Site Name/s: Paora Road

Site No: CRI 07 0078

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25785 62228

Date: 23.02.90

Brief Description of Site: This is a 2km length of coastline in rough pasture and boxthorn (Lycium ferocissimum) to the high tide zone. The area is generally unfenced. There is little known about its values.

Conservation Values: Natural: I Cultural: B C D Historic: A

Comment: The Matanehunehu Stream is a clean river with a swimming hole. Waterfowl are present in this area (Ref 1). This area has high spiritual values to the Taranaki Iwi (Ref 2). There are two sites of spiritual significance in this area (Ref 1). The area requires survey.

Site Importance: International National Regional Local Unknown

Comment: This area has yet to be field-checked and assessed.

Existing Threats: Type: C D

Comment: A lack of coastal fencing has seen cattle remove most native plants and boxthorn (Lycium ferocissimum) invades remnant areas. However, more information is needed on this area.

Human Modification and Human Use: Type: H I J

Comment: This area is popular for surfing and hunting from horseback. The cemetery is still used. Little is otherwise known on this area.

Existing Protection: Type: C

Comment: A local purpose reserve forms a strip along the foreshore from the Cemetery to Wairongomai Stream. However, this reserve is unfenced and grazed by cattle.

Availability of Information:

				1. Well documented
Natural	1	2	3	2. Limited information (general)
Cultural	1	2	3	3. Little information (if any)
Historic	1	2	3	
Threats	1	2	3	
Human Mod. & Use	1	2	3	
Protection	1	2	3	

Comment: Locals and kaumatua have a detailed knowledge of the history of the area, however it has not been documented.

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	<u>7</u>
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Hu Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre, (pers. obs.).
2. Roy Komene (Taranaki Iwi) 14 Kowhai Street, New Plymouth.

Maori Contacts:

Phylis Komene (from Wairongomai Stream north), Hoani Road, RD 37, Okato.
Milton Hohaia, (from Wairongomai Stream south), Coast Road, Pungarehu.

Recorded on Existing Databases: All checked

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. <u>None</u> | | |

Comment:

Other Considerations: -

Accompanying Maps and Photographs:

Site Name/s: Hangatahua

Site No: CRI 07 0079

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25809 62253

Date: 23.02.90

Brief Description of Site: This site covers approximately 5km of coastline and although the surrounding foreshore is generally cobble and boulder, the area just south of the Stony River mouth consists of a sandy beach, backed by a good dune system. The Stony River is regarded as one of the most pristine in the province, and has a protection order on it. The large sand deposits which form the beach come from the river and the waves generated by storms change the beach constantly. A noted wetland is situated at the back of the dunes. To the north of the river mouth is an area called the 'Kumara Patch' and this site is considered one of the best surfing spots in Australasia. There are three public access points to this area and all involve a 2-5 minute walk to the beach.

The sand dunes at the end of Komene Road are almost devoid of native vegetation, but extensive dunes such as these are a rare landform on the Egmont Coast. To the north of Stony River, the beach is characterised by large mobile cobbles. An old dairy company outfall pipe is visible at Kaihihi Road and at present is not in use.

All adjacent farmland is in pasture for dairy production.

Conservation Values: Natural: A, B, C, E, H Cultural: A, B, C, D, E Historic: A, D

Comment: Kaihihi Road is a highly natural area and at first glance appears quite unspoilt. There is a strip of coastal vegetation in this area. Several pa sites are adjacent to the beach and some kaimoana is collected away from the dairy outfall (Ref 1).

The dunes at Komene Road are an uncommon landform in this Ecological Region (Ref 2). Stony River itself is classed as the most undisturbed river in the province, and has considerable aesthetic value. The "Kumara Patch" is an international surfing destination as well as being popular for fishing and walking (Ref 1). The river flat shows evidence of pre-European campsites (Ref 3). The accreting point has high scenic value, and the reefs offshore usually provide good fishing (Ref 1). The sand dune wetland has a thriving eel fishery and is popular with migratory waders including the two rare species; the least golden plover (Pluvialis fulva), and sharp-tailed sandpiper (Calidris acuminata). Also the threatened wrybill (Anarhynchus frontalis) occasionally visits this area (Ref 4 and 12).

Okato College makes considerable use of the area (Ref 1). Two shipwrecks lie offshore, these are the 'Marchioness' which sank in 1864, and the 'Ottawa' which sank in 1877 (Ref 5).

Site Importance: International National Regional Local Unknown

Comment: The "Kumara Patch" is internationally rated as one of the best surfing spots in Australasia (Ref 6). The area is nationally important for the presence of rare and threatened bird species such as least golden plover, sharp-tailed sand piper and wrybill which occasionally visit the area (Ref 4 and 12).

Existing Threats: Type: C, D, F

Comment: At Kaihihi Road the dumping of rubbish into the vegetation is definitely a problem (Ref 1 and 7). Grazing of stock, and invasion by boxthorn (Lycium ferocissium) is damaging the dune area at Komene Road, and a massive rabbit population has removed all trace of once prevalent pingao (Desmoschoenus spiralis), (Ref 1 and 8) which is locally important (Ref 13).

A gravel quarry operates in the lower reaches of the river, and this may impact on the water quality (Ref 1). A paua farm is being planned for the northern bank of the Stony River (Ref 1 and 7).

Human Modification and Human Use: Type: E, I, J

Comment: This area receives very high recreational use by surfers, windsurfers and fisherman. Whitebaiting and fly-fishing also occur in the Stony River. The coast here is little modified and access is by foot only (Ref 9).

Kaihihi Road is used for surfing, surfcasting and some kaimoana gathering. A disused dairy factory pipeline runs from the high to low water mark and is concreted to the reef.

Existing Protection: Type: A, B, D

Comment: A section 58 strip extends from the Stony River mouth, north to the Kaihihi Stream. A proposed esplanade reserve from Brophy Road to the coast would guarantee public access. To the south is an area of Maori Reserve (Ref 10). The river itself is protected by a Conservation Order placed over it by the Taranaki Catchment Commission (Ref 11). A strip is zoned 'coastal protection' in the District Scheme, however, this may be too narrow, given the high mobility of this coast (Ref 10). Foreshore strips are unfenced, and thus are of little effect.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	<u>2</u>	3
Historic	1	<u>2</u>	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	1	<u>2</u>	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Good additional oral history is available from iwi elders and other locals.

Sources of Information:

Oral	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Cultural	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Historic	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Threats	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Human Mod & Use	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
Protection	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Thelma Wilson, Department of Conservation, New Plymouth Field Centre.
2. Jeremy Gibb, CRI Task Force Co-ordinator, Department of Conservation, Wellington.
3. Archaeological Association Records, Taranaki Museum. Filekeeper - Roger Fyfe.
4. Ornithological Society Records, 1987 and 1989
5. de Jardine M, 1984. "Shipwrecks On and Off the Taranaki Coast" Manuscrip in New Plymouth Library.
6. Tom Smithers (Local surfboard manufacturer - pers. obs.) and various surfing publications.
7. Government Department files, including Department of Conservation and Ministry of Transport, held at New Plymouth Field Centre.
8. Phylis Komene, Hoani Road, RD 37, Okato (Taranaki Tutura and iwi contact).
9. Taranaki Catchment Commission 1980 "The Recreational Use of Water in North Taranaki".
10. North Taranaki District Council Proposed District Scheme 1989.
11. Taranaki Catchment Board - 'Stony River Conservation Order' and background reports.
12. Bell, B. 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No. 12: 103p.
13. Given D, 1990. Threatened Plant List and Local Plant List New Zealand Botanical Region. (in draft) DSIR Land Resources, Christchurch

Additional References

- Komene (Maori values), 14 Kowhai Street, New Plymouth.
- Errol Hamil, Egmont Dairy Co-Op, Box 58, Opunake (pipeline).
- Smith, S Percy 1910 "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.

Recorded on Existing Databases: (All checked)

- | | | |
|--------------------|----------------------------------|----------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

SSWI - unpublished data available at Department of Conservation, Wanganui and New Plymouth.
WERI - Record name - Waikiri Stream Wetland: date of survey - 1985: significance -local.
HPT - Taranaki County Inventory (1984) P19, 68, 69, 75, 202, 203, 122

Other Considerations: The old dairy factory has been taken over and the new owners may wish to use the marine outfall. A paua farm has been proposed for the foreshore area and would need strict controls on effluent discharge.

Accompanying Maps and Photographs:

Site Name/s: Tataraimaka/Maitahi

Site No: CRI 07 0080

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25863 62295

Date: 23.02.90

Brief Description of Site: This is a generally low lying stretch of coast, 6km in length. Tataraimaka Pa, or the 'Crows Nest', is a prominent coastal feature from a considerable distance, especially offshore. Today it is a fenced coastal forest headland dominated by pohutukawa (Metrosideros excelsa). This was an important pa site with many battles fought in the surrounding area. Further along the coast is Maitahi Reserve.

Offshore, volcanic reefs are present and they are fronted by cobble and boulder beaches. The beaches are backed by low cliffs, mostly covered in coastal scrub. There are some small patches of wetland with raupo (Typha orientalis) in the gullies. The surrounding land is undulating dairy pasture with boxthorn (Lycium ferocissimum) hedges.

Conservation Values:

Natural: A, B, D, E, H

Cultural: A B C D E Historic: A

Comment: This area is in stable and relatively well-vegetated condition, it's landscape and aesthetic qualities are enhanced by coastal forest headlands. This strip is one of few where coastal scrub is fenced. Maitahi Scientific Reserve contains the herb, aniseed (Angelica rosifolia), and a succulent Peperomia urvilleana which is uncommon in Taranaki (Ref 1). The reserve has a good variety of coastal vegetation including patches of wetland. Two threatened (Ref 7) species are known to use this area; these are the Australasian bittern (Botaurus stellaris poiciloptilus) and reef heron (Egretta sacra sacra) (Ref 2). The frequency of northern blue penguin (Eudyptula minor iredalei) burrows indicates that this area is favoured for breeding (Ref 3). Tataraimaka pa and the Katikara Stream catchment are very important sites to Taranaki Maori as a major battle took place in the Katikara. The area is now tapu. The pa and adjacent redoubt featured in the Land Wars. Tataraimaka pa is now an Historic Reserve and is spiritually significant, It is covered with adult pohutukawa trees (Ref 4). There are numerous pa and occupation sites in this area, and two canoe launching sites (Ref 5). The bay below Leith Road has spiritual value for Taranaki iwi (Ref 4). Many school groups camp in the Katikara Bay for outdoor studies (Ref 3 and 4).

Site Importance:

International

National

Regional

Local

Unknown

Comment: Maitahi Scientific Reserve is of national importance for its botany and because threatened species such as Australasian bittern and reef heron, regularly use the area (Ref 2). Tataraimaka pa is also of national importance for historical values (Ref 1).

Existing Threats:

Type: D, C

Comment: Predation of penguins is evident in the Maitahi Reserve. Cattle grazing is also a problem as it causes erosion at both sites especially adjacent to Tataraimaka. Cattle sheltering and grazing below the cliff seem to be causing the cliff edge to crumble and slip, removing valuable areas of vegetation. Boxthorn invasion is a threat to the native species (Ref 1).

Human Modification and Human Use: Type: B, I, J

Comment: One of the boat races, of which the origins are uncertain, (probably early Maori), was excavated in 19... This coast is used extensively by surfers, picnickers, whitebaiters and for kaimoana gathering. Excavations of the pa are still moderately preserved. Pohutukawas were planted by the 'Scenic Reserves Board' and are not naturally occurring. The graves are occasionally maintained by the Department of Conservation. The boat race at Maitahi is now disused (ref 3).

Existing Protection: Type: A, C, I, D

Comment: The headland at Tataraimaka and redoubt are Historic Reserves under Department of Conservation management (8380 m2) and most adjacent pa are registered historic sites. The adjacent foreshore is in either foreshore or esplanade reserve. All of this area is zoned 'coastal protection' in the District Scheme (Ref 6). The 7440m² Maitahi Scientific Reserve is the only area properly fenced from stock, apart from Tataraimaka pa.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: A wealth of cultural and historical information is available from locals, but only a limited amount has been documented.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Clarkson B R, and Boase M R, 1982, "Scenic Reserves of West Taranaki" Department of Lands and Survey.
2. Parrish R, 1985. Sites of special wildlife interest. New Zealand Wildlife Service, Department of Internal Affairs, Wellington.
3. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
4. Roy and Phylis Komene, Hoani Road, RD 37, Okato (local knowledge and iwi contacts).
5. Archaeological Association Records, Taranaki Museum. Filkeeper - Roger Fyfe.
6. North Taranaki Proposed District Scheme 1989
7. Bell, B. 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No. 12: 103p.

Local Contacts

Graham Snowdon (landowner) Lower Pitone Road, RD New Plymouth.
Mr Putt (landowner), Perth Road, RD 4, New Plymouth.

Additional References

Lands and Survey files - held at Department of Conservation, New Plymouth Field Centre.
Smith, S Percy 1910 "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.

Recorded on Existing Databases: All checked

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

WERI - Site name - Trims Swamp and Putts Swamp: date of survey. 1985: Significance - local.
SSWI - Unpublished data available at Department of Conservation, New Plymouth and Wanganui.
HPT - Taranaki County Inventory (1984) Site number P19 - 119, 204, 222, 223, 221, 190, 127, 126, 219
PNA - Egmont PNA, 1986.

Other Considerations: Fencing the entire reserve strip joining Tataraimaka and Maitahi would give valuable protection to remaining vegetation.

Accompanying Maps and Photographs:

Site Name/s: Oakura/Timaru Stream

Site No: CRI 07 0081

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25910 62315

Date: 23.02.90

Brief Description of Site: The seaside settlement of Oakura has the most popular beach in Taranaki and the coast receives a high recreational use all the way along to the Timaru Stream, a total length of about 5km. Windsurfing, surfing and swimming are popular recreational pursuits. The Oakura marae, on the south bank of the river has groynes to protect it from river erosion. Dairy farms and horticulture are predominant land uses on the undulating land south of Oakura to Timaru Stream. The wide sandy beach is fronted by small coastal dunes, and offshore cobble/boulder reefs are present.

Conservation Values:

Natural: B, H

Cultural: A, B, D Historic: A, B, D, C

Comment: Although few areas of native vegetation remain, a small wetland has survived in the centre of the urban area, and both the threatened (Ref 11) Australasian bittern (Botaurus stellaris poiciloptilus) and the rare (Ref 11) gold-striped gecko (Hoplodactylus chrysoireticus) are found here (Ref 1). The reef heron (Egretta sacra sacra) is another threatened species (Ref 11) which is known to frequent this stretch of coastline (Ref 2).

Historic sites dot the land from Oakura to Timaru Stream, and these include several historic trees. One of particular note is the largest pohutukawa (Metrosideros excelsa) in its southerly range (Ref 3).

Several shipwrecks lie offshore, and some artefacts from them decorate the local hotel (Ref 4 and 5). The most notable is the 'Gairloch', which was wrecked in 1903 and some wreckage is still visible. This wreck is one of the most popular for visitors in Taranaki (Ref 5).

The area is also rich in Maori history. Te Koru which is situated 1km upriver was an early and important pa and still shows magnificent stone walling. The river was used extensively at the time by canoes (Ref 6). Kaimoana is gathered from several reefs, and the river is popular for whitebaiting (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: Matekai Park supports two threatened species; the Australasian bittern and the gold-striped gecko thus making it nationally important. Te Koru undoubtedly has national value, while its location is inland, its importance can only be used as a guide to the level of activity on the coast. The area has a regional importance recreationally (Ref 7).

Existing Threats:

Type: A, D, E, I

Comment: Erosion is threatening both beach front properties and the Oakura Marae (Ref 8 and 9). The river has been polluted during summer and investigations are underway to pinpoint the cause which may possibly be contamination by the high number of septic tanks and farm runoff (Ref 9). Stock graze the dune area at Timaru Road, accelerating erosion and reducing the cover of vegetation (Ref 10). The inshore reefs are badly overfished, especially for paua (Ref 1 and 10).

Human Modification and Human Use: Type: A, H, I, J

Comment: Oakura is the most popular beach and seaside resort in Taranaki (Ref 7). The coast itself is little modified although it is fast eroding back into developed housing areas. All manner of shore and water recreation takes place here. A major surfclub is sited on the beach, while Oakura marae is frequently used by br hapu and school groups.

Further south, the area is farmed to mean high water spring though it is generally fenced. There is an informal (free) camping area at Weld Road which is popular all year round. Similar recreational activities occur here as at Oakura with whitebaiting being an additional attraction (Ref 10). Some kaimoana such as paua and mussels are collected.

Existing Protection: Type: C, D

Comment: There are several foreshore reserve and recreation reserve strips along the coast. The council has plans to increase and enhance the recreational reserve land fronting Oakura. Given the erosion rates, this would provide a good buffer zone. The historic trees are also mentioned in the District Scheme. Towards Timaru Stream there is a local recreational reserve along the foreshore. There are also four registered historic sites (3 pa and 1 redoubt), a small strip of crown owned recreational reserve at Weld Road and a proposed local recreational reserve at the Timaru Stream mouth. As Matekai Park supports at least two threatened species, and is currently only a recreation reserve, it may require an increased degree of protection.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Kerry Mathews, Conservation Officer, Department of Conservation, New Plymouth Field Centre (pers. comm.).
2. Ron Lambert, Director, Taranaki Museum (Pers. comm.).
3. North Taanaki District Council - Proposed District Scheme 1989
4. de Jardine, Miss M, 1948, "Shipwrecks On and Off the Taranaki Coast" Manuscript in New Plymouth Public Library
5. Barry Hartley - Private Register of Taranaki Shipwrecks.
6. Smith, S Percy. 1910 "History and Traditions of the Taranaki Coast" Published - Thomas Avery publications.
7. Taranaki Catchment Commission, 1980: The Recreationl Use of Water in North Taranaki"
8. Government files - including Ministry of Transport and Department of Conservation
9. Taranaki Catchment Commission records.
10. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (Pers. obs.).
11. Bell B, 1986. The Conservation status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication, No: 12: 103p.

Maori Contact

Phylis Komene, Hoani Road, RD 37, Okato

Local Contact

Howard Andrews (Kaumataua) Lower Timaru Road, RD 4, Okato, is an expert on local historic and cultural sites.

Recorded on Existing Databases:

- | | | |
|----------------------------------|-----------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | | |
| 5. <u>HPT County Inventories</u> | 6. <u>Other</u> | 7. None |

Comment:

WERI - Site name Oakura Swamp:

SSWI - Unpublished data available at the Department of Conservation, Wanganui and New Plymouth.

PNA Egmont PNA. Site No. 2 Oakura Swamp.

HPT - Taranaki County P19. Site number 38, 54, 43, 54, 80, 81, 93, 111, 193.

Other Considerations: All efforts to stabilise beach sand and dune areas should be encouraged - such as planting and controlling traffic on the dune areas.

Accompanying Maps and Photographs:

Site Name/s: Tapuae

Site No: CRI 07 0082

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25946 62335

Date: 22.02.90

Brief Description of Site: This 3km length of coastline centres around the Tapuae River valley which forms a break in the coastal cliffs and the resulting bay has a pleasant sandy beach backed by a small area of dunes. Adjacent cliff vegetation is good. There are many historic sites in the area, including at least three petroglyphs. This area receives moderate recreational use. Fishing is popular offshore, with several reefs coming to within 7m of the surface. The adjoining land use is predominantly dairy farming.

Conservation Values:

Natural: A, B

Cultural: B, C, D

Historic: A B

Comment: The area is extremely scenic and a lack of road access to the foreshore adds to its 'wilderness' value. The vegetation behind the beach is patchy, but some very good areas are present, including an area of small dunes, north of the river mouth (Ref 1).

Northern blue penguins (*Eudyptula minor irredalei*) and black-backed gulls (*Larus dominicanus*) nest in this area (Ref 1 and 2).

A huge giant kokopu (*Galaxias argenteus*), which is classified as indeterminate (Ref 9) has been recorded from the stream here (ref 3).

The area includes the site recorded as Whiro's landing place (AD 1270), and was obviously the scene of much pre-European activity (Ref 4). Six pa sites, a site of spiritual value, a canoe launching site, and at least three petroglyphs (Maori rock carvings) are present (Ref 1, 5 and 10).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is considered to be nationally important to the Taranaki Iwi because of the presence of the landing site (ref 6).

Existing Threats:

Type: D I

Comment: The riding school/club has been causing erosion to cliff area and to tapu sites. Overfishing of the inshore reef is very noticeable (Ref 1 and 6).

Human Modification and Human Use: Type: H I J

Comment: The area is often grazed to high tide mark as several stretches of farmland are unfenced (Ref 1). The sandy beach has quite high use, considering road access is usually locked and a 5 minute walk is required. Swimming, surfcasting, whitebaiting and walking all occur in this area (Ref 1 and 7).

Existing Protection: Type: C, D, I

Comment: The area is included in the District Scheme 'coastal protection zone' (Ref 8). Foreshore to the south of Tapuae Stream is a foreshore reserve in Crown ownership. Even though historic sites on private land are supposed to be protected, one of the pa sites has been recently damaged by log hauling.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Some specific sites are well documented, while others have more general information.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Thelma Wilson. Senior Conservation worker, Department of Conservation, New Plymouth Field Centre (Pers. obs.).
2. Heath Priest. Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
3. Taranaki Museum - collection.
4. Smith P. 1910. "History and Traditions of the Taranaki Coast", Thomas Avery Publications.
5. Prickett N. 1980. "Maori Fortifications of Omata and Oakura District, Taranaki Records, Auckland Institute and Museum 17: 1-48
6. Phylis and Roy Komene, Taranaki tuturu, Hoani road, RD 37, Okato
7. Taranaki Catchment Commission, 1980. 'The Recreational Use of Water in North Taranaki'.
8. North Taranaki District Council Proposed District Scheme 1989
9. Bell B. 1986. The Conservation status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication, No. 12 103p.
10. Historic Places Trust Taranaki County Inventory.

Recorded on Existing Databases: All checked

- | | | |
|--------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment: HPT Taranaki County Inventory site number: P19 - 147, 17, 18, 20, 21, 24 + 22

Other Considerations: A coastal walkway from New Plymouth is proposed for this area and this may change current use patterns. An aqua farm is being considered for farmland adjacent to Whiro's landing site and implementation would involve intake and outfall pipes and a pumping station.

Accompanying Maps and Photographs:

Site Name/s: Waireka

Site No: CRI 07 0083

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25970 62350

Date: 23.02.90

Brief Description of Site: Lava and boulder reefs of varying size line this 3km section of coast, with many small 'headlands' trapping pockets of sand to form high water beaches. The cliffs are volcanic in origin and reach 8-20m in height, they are generally vegetated in both exotic scrub and native plants. Several of the small headlands have grey-faced petrel (Pterodroma macroptera gouldi) burrows. Dairy farming predominates above the cliffs the exception being the DOW-Elanco (Chemical Company) research farm. A chemical dump on this farm was found to be leaching dioxin into the reef system and leachate has since been removed by pumping. The Department of Conservation is investigating the possibility of building a public walkway through this area.

Conservation Values: Natural: A, C, E Cultural: A B C D Historic: A B

Comment: Grey-faced petrel and fluttering shearwater (Puffinus gavia gavia) nest at several sites on the cliff peninsulas. Northern blue penguins (Eudyptula minor iradalei) and black-backed gulls (Larus dominicanus) also nest along this stretch of coast (Ref 1 and 2). Lloyds ponds, located nearby have a variety of waterfowl including the threatened (Ref 8) Australasian bittern (Botaurus stellaris poiciloptilus) (Ref 6). At least eight pa sites are present and there were many battles fought on this tribal boundary (Ref 3). Kaimoana is gathered from coastal lava reefs. Patches of coastal vegetation still exist (Ref 4) and Maori archaeological sites are present in cliff top dunes (Ref 5). The cliffs are of note for obvious and well-defined dune banding (Ref 2).

This area is unspoilt and is used for passive recreation with an island outlook (Ref 4).

Site Importance: International National Regional Local Unknown

Comment: This site is nationally important due to the presence of the threatened Australasian bittern (Botaurus stellaris poiciloptilus) (Ref 8). Lloyds ponds are regionally important (WERI) and the dune banding on the sea cliffs is possibly of national importance, however more information is required in order to assess the site's importance geologically.

Existing Threats: Type: C, D, E

Comment: Cats and other predators prey on the nesting birds and chicks. The DOW-Elanco chemical company research farm is sited here, and the dump site has in the past leaked dioxin into the marine environment. Leachate is now contained and removed and there is a new dump further inland. Boxthorn (Lycium ferocissimum) is crowding out native vegetation, and is a hazard to landing birds (Ref 4). The land is generally grazed to the cliff edge which speeds up erosion.

Human Modification and Human Use: Type: H I J K

Comment: Concrete retaining walls trap all ground water leachate from the chemical farm which is then pumped back to the surface (Ref 4). The area has a small recreational use which includes the gathering of Kaimoana, surfcasting, walking and swimming in the bays (Ref 7).

Existing Protection: Type: I, D

Comment: A coastal protection zone is proposed in the District Scheme (Ref 8). A Section 58 strip north of Sutton Road and a small strip of foreshore reserve are in place south of this zone, however, these methods provide no protection for the vegetation or wildlife (Ref 4).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Considering this sites close proximity to New Plymouth city little is recorded about this site or its recreational potential. Tidal and subtidal information needs to be collected. Specific historic sites have been well documented.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. TCPL Resources Ltd. (1989) Toka Exploration Well, Part 2, 'Environmental Studies and Response to Submissions'
2. Ron Lambert. Director, Taranaki Museum and Ornithologist (pers. comm.).
3. Prickett N. 1990. "Maori Fortifications of Omata and Oakura District, Taranaki" Records - Auckland Institute and Museum 17:1-48.
4. TheIma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
5. Archaeological Asssocation Records, Taranaki Museum. Filekeeper: Roger Fyfe.
6. Bayfield MA, and Benson MA, 1986 'Egmont Ecological Region PNA Report' Department of Lands and Survey.
7. Taranaki Catchment Commission, 1980. "The Recreational Use of Water in North Taranaki".
8. New Plymouth District Scheme.

Maori Contact

Keith Manukonga, 11 Constance Street, New Plymouth (Taranaki Iwi)

Local Contact (especially botanical)

George Mason, Sutton Road, RD 4, Omata

Additional References

- Smith, S P, 1910 'History and Traditions of the Taranaki Coast' Thomas Avery Publications.
 Wildlife Service Files - held at Department of Conservation, New Plymouth Field Centre.
 Roy Komene - Taranaki Tutura, 14 Kowhai Street, New Plymouth.

Recorded on Existing Databases: All checked.

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|--------------------|----------------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:
 PNA - Egmont PNA report (1986).
 WERI - record name Lloyds Ponds: date of survey - 1981: Significance - Regional.
 SSWI - unpublished data held at Department of Conservation, New Plymouth and Wanganui.
 HPT Taranaki County Inventory (1984) Site number P19 - 87, 88, 89, 90, 91, 114.

Other Considerations: With the tank farm adjacent and oil exploration planned offshore, the risk of pollution, particularly oil is high. If the walkway goes ahead further protection and replanting may be required. An extension of the Sugar Loaf Island Marine Park southwards, to include reefs to Beach Road has been suggested.

Accompanying Maps and Photographs:

Site Name/s: Sugar Loaf Islands/Paritutu

Site No: CRI 07 0084

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25980 62385

Date: 23.02.90

Brief Description of Site: This site consists of a complex system of coastal and offshore islet features with strong intergration of coast and land. It is interpretive of volcanism offshore and now shows eroded stumps (Moturoa and Paritutu) of andesite plugs. The Sugar Loaf Islands Marine Park covers an area of 8km² adjacent to New Plymouth and encircles a group of offshore islands and reefs. All of the islands are important wildlife habitats and historic sites. Marine life is abundant, particularly in the conservation area and includes several unique species. The 3km landward border of this site includes the main breakwater and New Plymouth power station which has intakes and discharges into the park. Centennial Drive and Park overlook the marine park.

Conservation Values: Natural: A, B, C, D, E, G, H Cultural: B, C, D Historic: A, B

Comment: Because of the absence of introduced mammalian predators, Moturoa and Saddleback Islands are a safe and significant breeding ground for flesh-footed shearwaters (Puffinus carneipes), sooty shearwaters (Puffinus griseus), northern diving petrels (Pelecanoides urinatrix urinatrix) and northern blue penguins (Eudyptula minor iredalei). They are the northern-most breeding ground for the New Zealand fur seal (Arctocephalus forsteri) and the southern-most breeding colony of the grey-faced petrel (Pterodroma macroptera gouldi) (Ref 1). From a landscape perspective, the landforms are unique in the context of inshore New Zealand, and have a high degree of naturalness (Ref 2 and 7).

The marine life in the area includes several uncommon species and others that are unique to the Sugar Loaf Islands (Ref 3).

The area has high cultural and historic value; a spiritual site which is tapu is present inside Motukuku reef. The entire park is tapu, and all the islands are recognised historic sites (Ref 4).

The rare (Ref 11) gold stripe gecko (Hoplodactylus chrysoireticus) has been reported on and around Paritutu (Ref 12).

Paritutu itself is a mosaic of exotic grassland, and weeds in places, but important stands of taupata (Coprosma repens), flax (Phormium tenax) and karo (Pittosporum crassifolium) do exist (Ref 6). Rare shrubs of the ecological region include a tree daisy (Olearia townsonii) and a low-growing, whitish form of the shrub Corokia cotoneaster (var.) unique to Paritutu (Ref 13). Native vegetation on the islands includes the vulnerable (Ref 10) Cook's scurvy grass (Lepidium oleraceum) (Ref 1).

The Sugarloaf Islands are nationally important geologically as they represent the oldest volcanics in Taranaki (Ref 7).

Site Importance: International National Regional Local Unknown

Comment: The Geopreservation Inventory ranks the volcanic forms as nationally important. This area is one of only five marine protected areas (Ref 5) and no other inshore area has such interpretive eroded volcanic features of its type (Ref 7). It is also of national value for the botany and wildlife this site supports.

Existing Threats: Type: B C E J

Comment: Oil spills emanating from the Omata tank farm, New Plymouth Power Station and passing ships have been detected in the past. An application has been received from TCPL Resources Ltd to drill for oil within the Park (Ref 5). Further tall structures, such as towers, tanks and pylons would detract from existing landscape aesthetics (Ref 2). The port dredge dumping grounds are only 1 km away from the park boundary and silt may be carried into the park. Corrina reef has suffered from heavy silt inundations in the past. Boxthorn (Lycium ferocissimum) is a threat to native vegetation on Moturoa Island. (Ref 5).

Human Modification and Human Use: Type: H, I

Comment: Modification is limited to early and pre-European habitation on the islands. The area is of high recreational value for fishing, diving, yachting, canoeing, surfing, swimming, beach walks and bird watching (Ref 8 and 9). Commercial fishermen operate within the park and extract fish for bait. The New Plymouth power station discharges heated, chlorinated cooling water into the Park, but the effects seem minimal. The intake is also within the Park and research has been carried out on crayfish larvae here.

Existing Protection: Type: E

Comment: This area consists of a Marine Park with fish protected by the Amateur Fishing Regulations under the Fisheries Act. Water quality is protected by the Taranaki Catchment Commission (Regional Council) Policy. All islands are historic sites (with the exception of Paritutu) under the Historic Places Trust Act. Moturoa and Saddleback are wildlife refuges under the Wildlife Act. Paritutu is part of Centennial Park (District Council Reserve).

Greater protection for the area is currently before the select committee, as a Private Members Bill.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	<u>1</u>	2	3
Historic	<u>1</u>	2	3
Threats	<u>1</u>	2	3
Human Mod. & Use	<u>1</u>	2	3
Protection	<u>1</u>	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Vegetation and wildlife surveys have been carried out on the islands but invertebrate surveys are still required. Geology is well described for this area. Reef marine life is well described although tidal areas and soft bottom sections have had little research. A survey of ocean currents is also required.

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	<u>6</u>	<u>7</u>
Cultural	<u>1</u>	<u>2</u>	3	4	5	6	<u>7</u>
Historic	<u>1</u>	2	3	4	5	6	<u>7</u>
Threats	<u>1</u>	2	3	4	5	<u>6</u>	<u>7</u>
Human Mod & Use	<u>1</u>	<u>2</u>	3	4	5	<u>6</u>	<u>7</u>
Protection	<u>1</u>	2	3	4	5	<u>6</u>	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. TCPL Resources Limited: Toka Exploration Well, Pt 2 "Environmental Studies and Response to submissions" 367 pages.
2. Martin Nicholls, Landscape Architect, Department of Conservation, Whangarei Conservancy
3. New Plymouth Underwater Club, 1989. "Marine Biology of the Sugar Loaf Islands Marine Park" 53 pages.
4. Smith, S Percy, 1910: "History and Traditions of the Taranaki Coast" Thomas Avery Publications 567p.
5. T Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
6. Bayfield MA, and Benson MA, 1986. "Egmont Ecological Region PNA Survey Report" Department of Lands and Survey.

7. Neall VE, 1979. Geopreservation Inventory and 1974 "The Volcanic History of Taranaki" Egmont National Park Board.
8. "A Marine Park for the Sugar Loaf Islands" - the Report of the Steering Committee, March 1986.
9. Taranaki Catchment Commission, 1980: "The Recreational Use of Water in North Taranaki".
10. Given D, 1990. Threatened plant list and local plant list - New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
11. Towns D, and Pickard, 1988. Atlas of the Amphibians and Reptiles of New Zealand. Conservation Sciences Publication No. 1
12. Fauna Survey Unit, New Zealand Wildlife Service, Department of Internal Affairs, Wellington.
13. C Ogle, Conservancy Advisory Scientist, Department of Conservation, Wanganui

Additional Information

Offshore Sediment Transport Reports (Numerous).
Taranaki Catchment Board reports.
Taranaki Museum : Ron Lambert and Roger Fyfe - Historic expertise.
Department of Land and Survey and NZ Wildlife Service files held at Department of Conservation, New Plymouth.
Ornithological Society Observations.
National Museum - marine species lists.

Maori Contacts

Darcy Keenan. 27 b Lorna Street, New Plymouth.
Mr and Mrs Sharland. 67 Pendarves Street, New Plymouth.

Recorded on Existing Databases: All checked.

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|--------------------|----------------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | |
| 6. Other | | |

WERI - record name - Lloyds Ponds : date of survey - 1981 : significance - Regional.
SSWI - unpublished data available at Department of Conservation, Wanganui and New Plymouth.
PNA - Egmont PNA Report 1986.
Geopreservation Inventory record number LAN 441 Sugarloaf Islands and Paritutu (1988).
HPT - Taranaki County Inventory 1984 Site Number P 19 - 7, 12, 13, 14, 15, 48.

Other Considerations: The potential for oil exploration to ruin the park and human perception of it, is very high. Future port expansion on the eastern Park boundary is another threat, particularly to Moturoa Island, with the introduction of predators.
Re-vegetating the shoreline of Paritutu Centennial Park would greatly enhance the area.

Accompanying Maps and Photographs: Historic and erosion maps, aerial, oblique and underwater photographs held at Department of Conservation, New Plymouth Field Centre

Site Name/s: New Plymouth City/Port

Site No: CRI 07 0085

Responsible Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25005 62378

Date: 22.02.90

Brief Description of Site: Although New Plymouth is built by the sea, it is not focused on it. Historically the coast has been ignored and abused, so the 6km coastline is considerably altered by seawalls, reclamations, groynes and pipe lines. Expensive seawalls have been built (and need repairing) to prevent property loss. The Port interrupts littoral sand movement and beaches in the north are eroding and rocky. A coastal commercial fishery operates and all manner of recreational use is made of the coastline; this includes surfing, yachting, boating, sunbathing, swimming and food gathering.

The commercial port area contains several historic sites, many of which are badly modified. The sheltered beach of Ngamotu, though occasionally threatened by port development, still survives, and is one of the most popular in the city. Recreational and commercial fishing fleets are based here as well as yacht and dive clubs. Some wildlife still remains and breeds in the area.

Conservation Values:

Natural: B D I

Cultural: A C D E

Historic: A D

Comment: Due to modifications, only offshore historic sites remain intact (Ref 2), including thirteen known shipwrecks (Ref 10). The reefs are extensive and have value to local Maori (kaimoana and cultural significance) (Ref 5). Kaweroa reef, a relatively sensitive area, is studied by school groups. Lamprey (Geotria australis) used to be harvested from the Huatoki Stream but it is not known whether they are still found here. An assortment of seabirds, including the reef heron (Egretta sacra sacra) which is a threatened species use the inshore reefs (Ref 12). Northern blue penguin (Eudyptula minor iredalei) are present along the coastline and nest within the port area (Ref 1). The gold-stripe gecko (Hoplodactylus chrysosireticus) which is a regionally threatened species are believed to be widespread (Ref 1). Pingao (Desmochoenus spiralis) is present at Fitzroy and East End beaches. Whitebait are found in the Te Henui and Huatoki Rivers. Fur seals (Arctocephalus forsteri) frequent the harbour especially during periods of rough weather. Though wildlife values are not notably high, the harbour area has considerable value as an area where people can interact with sea birds, and penguins and seals (Ref 1).

Within the port four ships have been wrecked, although most remains have been buried (Ref 10). Eight historic sites remain, including spiritually important sites and Mikotahi Island pa (Ref 2).

The harbour has a high recreational value and is a base for many activities. Ngamotu Beach is the only sheltered beach on this coast and is immensely popular (Ref 3). Northern diving petrels (Pelecanoides urinatrix urinatrix), black-backed (Larus dominicanus) and red-billed (Larus novaehollandiae) gulls nest in the harbour and power station area (Ref 4).

A 'Mauri' stone between the wharves has spiritual value to Ngati te Whiti people (Ref 5). An historic puka tree (Griselinia lucida) grows on the grave of Poharama Te Whitei (Ref 6).

Site Importance:

International

National

Regional

Local

Unknown

Comment: The area is nationally important due to the presence of threatened species such as the gold-striped gecko and reef heron (Ref 1) and the fact that Port Taranaki is the only major West Coast Port.

Existing Threats:

Type: A, D, E, G, J, M

Comment: Erosion and seawall additions, continue to alter the nature of the area, and sand dumping and beach replenishment trials are covering areas of reef (Ref 7). Water pollution from spills into rivers, and ground seepage especially those that are petroleum based are regular occurrences (Ref 8). Introduced marine species from ship ballasts are present in the harbour and probably offshore (Ref 1 and 11).

The predation of seabirds, especially penguins and the destruction of habitat occurs (Ref 1). Ngamotu beach is threatened by a planned wharf expansion and reclamation (ref 9). The New Plymouth Power Station discharges heated water and oil spills have occurred in the past (Ref 8).

Human Modification and Human Use: Type: A B C D E G H I J K

Comment: The coastline is as heavily modified and developed as could be expected for an area fronting a major city. Land developments, reclamations, outfalls and pipelines, beach replenishment schemes, recreation and Kaimoana gathering all take place in this area. The port, although highly developed commercially, has a marina and recreational facilities, playgrounds and provides a sheltered area for small yachts, wind surfing and water skiing. Ships anchor offshore while awaiting a pilot or berth.

Existing Protection: Type: C

Comment: The network of coastal reserve land is being progressively added to by the Council. Recreation Reserve status allows for a wide variety of use including swimming baths, tennis courts and car parks. There is no protection of conservation values within the port, however, a policy of public access to all practicable areas is in place (Ref 6).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Change is occurring so rapidly that some information may well be out of date, or inaccurate.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. T Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
2. Roger Fyfe, TCPL Resources Limited, Part 2, Toka Exploration Well, Chapter 2, pages 219:221 + D6 297:339.
3. Taranaki Catchment Board 1980 "The Recreational Use of Water in North Taranaki"
4. TCPL Resources, Part 2, Toka Exploration Well.
5. Darcy Keenan, 27B Lorna Street, New Plymouth; Moana Sharland, 67 Pendarves Street, New Plymouth, (Ngati te Whiti).
6. New Plymouth City Council District Scheme.
7. Beach restoration and erosion reports - including Ministry of Transport files - held at Department of Conservation, New Plymouth Field Centre.
8. Alan Kennedy, Inventory officer, Taranaki Regional Council.
9. Harbour Board Reports - P Atkinson. Technical Manager, Port Taranaki.
10. de Jardine M. 1948: "Shipwrecks on and off the Taranaki Coast" - manuscript in New Plymouth public library.
11. Maddox D. 23 Vancouver Place, New Plymouth (underwater photographs and personal observation).
12. Bell B. 1986. The Conservation Status of New Zealand Wildlife, New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional publication 12: 103 p.

Additional References

Department of Lands and Survey Walkway files.
Department of Conservation Files.
Fisheries Research Division.
Te Pukoriri Wharehoka, Parihaka Pa, Parihaka Road, Opunake.
New Plymouth Underwater Club Report.
Ornithological Society Records, held at Taranaki Museum.

Recorded on Existing Databases: All checked

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|--------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

HPT Taranaki County Inventory 1984. Site number P19 - 3, 8, 10.

Other Considerations: The threat of an oil spill is considerable - be it from shipping on shore sources, or offshore exploration.

Kaweroa reef is the last one fronting the city which is still in a reasonable condition and needs recognition as such and some form of protection.

Accompanying Maps and Photographs: Aerial and oblique photographs are held at the Department of Conservation, New Plymouth Field Centre. Erosion maps are available from the Taranaki Regional Council and in many historic aerial photographs are stored at the Taranaki Museum.

Site Name/s: Bell Block/Waiwhakaiho

Site No: CRI 07 0086

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: P19

Grid Ref: 25080 62410

Date: 22.02.90

Brief Description of Site: Bell Block, once a seaside resort, has now turned into a suburb of New Plymouth. The beach and dunes are a popular recreation area with locals and city residents. The small seafront reserve and beachfront houses have been threatened by coastal erosion. Several attempts at sea walls, dune fencing and planting have been undertaken. Two shipwrecks lie on shallow reefs offshore and a small boat ramp is present. Closer to New Plymouth is the Waiwhakaiho River and coastal dunes which are vegetated by taupata scrub (Coprosma repens) and boxthorn (Lycium ferocissimum). The area is little used due to lack of access. Offshore reefs here are shoaling and shallow, mainly boulder with sand/cobble beaches. The area has extensive dunes and contains the Waipu lagoons which are valuable wetlands. The city's sewerage passes unobtrusively under the area and a walkway is proposed. The dunes are mostly covered in rough scrub and marram (Ammophila arenaria). This site covers approximately 5km of coastline.

Conservation Values:

Natural: A B C D E F H

Cultural: A C

Historic: A B D

Comment: Waipu Lagoons were identified in the Egmont Protected Natural Areas Programme (PNA) report (Ref 11) as important dune lakes requiring protection in the Egmont report. The fringing wetlands contain several aquatic plant species which are regionally uncommon (Ref 12). The area is used by Australasian bittern (Botaurus stellaris poiciloptilus) which is a threatened species (Ref 9), and other wetland birds, and is in a relatively natural state, with recognised wildlife value (Ref 11). The Waiwhakaiho River mouth and environs is another important wildlife area, with bittern, pied stilt (Himantopus leucocephalus) and cattle egret (Bubulcus ibis) using the raupo edged ponds near the river mouth and on the northern side of the river. Little egret (Egretta intermedia) have been recorded here in the past (Ref 1).

The Waiwhakaiho River is used for whitebaiting (Ref 2), and was once a prized lamprey (Geotria australis) fishery (Ref 3). A Ministry of Agriculture and Fisheries survey has shown it to be a very diverse freshwater shrimp habitat (Ref 4). Dune systems such as that at Bell Block, are uncommon along the Taranaki Coast, and this one is suffering from human abuse and over-use. Pingao (Desmoschoenus spiralis = local), (Ref 10) is present on the dunes, and the southern dunes are covered in a mixture of weeds including boxthorn and native scrub (Ref 5).

Te Whioa and Rewarewa kaimoana reefs are located offshore (Ref 3) and the area receives considerable attention from fishers and divers (Ref 5). Two shipwrecks are visible and divable, and an old canoe launch ramp is still defined (Ref 6).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important for the presence of a threatened bird species, the Australasian bittern (Ref 9). The area has historical value also and an old canoe launch ramp is still visible.

Existing Threats:

Type: A D E F G K L M

Comment: Erosion (and the seawalls built to halt it) threaten property east of Mangati Road (Ref 7). Motorbikes and overuse by the public is damaging the dune system. Grazing and predation at the wildlife sites are also a problem. Urban development is affecting the Waipu Lagoons and removal of water from the catchment seems to have already destroyed the Waiwhakaiho lamprey fishery. The Waiwhakaiho suffers from frequent discharges into the river from the fertiliser works and storm water systems which serve to increase the problem. The city sewerage which is discharged offshore is treated to a high standard, but during plant breakdowns, raw sewerage is discharged. Such discharges could effect the consumption and/or quality of shellfish (Ref 5).

Human Modification and Human Use: Type: A, B, E, I, H, J

Comment: Several seawalls have been built in an attempt to protect property at Bell Block beach (Ref 7). This area has high recreational use which includes swimming, surfing, wind-surfing, surfcasting, boating and some shore based activities. A small concrete ramp is also present (Ref 8).

The city sewer passes under the foreshore at Waiwhakaiho and out to sea with little trace. There is some recreational use of Waiwhakaiho and this includes the gathering of kaimoana, surfcasting and shore based activities. This area is probably underutilised, due to poor access, and the close proximity of the rifle range. There are plans to develop a walkway area in the future (Ref 7).

Existing Protection: Type: C, D

Comment: The district scheme has zoned Bell Block 'community 1' which is a Recreation Reserve and Coastal erosion hazard area and this gives some protection over what may or may not be developed. At the river mouth there is a Council Reserve and an 'island' of Crown land. A walkway is intended for the area, if and when the rifle range can be moved. Coastal land was gifted to the Council by the Taranaki Harbour Board.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: There is good information on erosion and control measures. In addition, shipwreck and historic sites are relatively well documented.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Ornithological Society records, Taranaki Museum, 1975-89.
2. Taranaki Catchment Board, November 1981 "The Recreational Whitebait Fishery in Taranaki" 82p.
3. Aila Taylor, 20 Hume Street, Waitara. Local and Maori expert for Te Atiawa.
4. Ron Lambert, Director, Taranaki Museum (pers. comm.)
5. Thelma Wilson (pers. obs.), Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
6. Taranaki Museum records and B Hartley - Register of Taranaki Shipwreck (12A Ronald Street, New Plymouth).
7. New Plymouth City Council report on coastal erosion and district sheme.
8. Taranaki Catchment Commission 1980. "The Recreational Use of Water in North Taranaki".
9. Bell B, 1986. The Conservation status of New Zealand's Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Occasional Publication 12, Wellington. 103p.
10. Given D, 1990. Threatened plant list and local plant list for the New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
11. Bayfield M A, and Benson M A, 1986. Egmont Ecological Region, Survey report for the New Zealand Protected Natural Areas Programme, Department of Lands and Survey, Wellington, 97p.
12. Ogle C C, 1989. Taranaki Plant List No. 1. Waipu Lagoons, Bell Block, New Plymouth (unpub). Department of Conservation, Wanganui. 3p.

Additional References

- Smith, S Percy 1910 "History and Traditions of the Taranaki Coast" Published - Thomas Avery.
 - Government Files and records - including Lands and Survey, Ministry of Transport, Oceanographic Institute, held at Department of Conservation, New Plymouth Field Centre.
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Recorded on Existing Databases:

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|--------------------|----------------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

WERI - Site name Bell Block Oxidation Ponds, Waipu Lagoons 1 and 2 and L Rotomanu: date of Survey 1981 - 1983.
Significance: Local.

SSWI - unpublished data available at Department of Conservation, New Plymouth and Wanganui.

PNA - Egmont PNA 1986. Site number W48.

HPT - Taranaki County Inventory (1984) P19 Site no. 151, 164, 165, 166, 168, 169, 170

Other Considerations: There is a risk of petrochemical spills from offshore, pipelines and river/pipeline crossings. Land development on this area would destroy its wilderness and recreation potential.

Accompanying Maps and Photographs: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre. Taranaki Regional Council holds detailed erosion maps.

Site Name/s: Waiongana

Site No: CRI 07 0087

Proprietors Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26124 62447

Date: 22.02.90

Brief Description of Site: This 3km stretch of coast is bounded in the north by the Waiongana stream, and is backed by cliffs of volcanic origin to the south. The land is flat to rolling, with dairying, horticulture and an airport, as the prominent land uses. The cobble beach and reefs in the north become more confined to the south, with large areas of sand trapped below the rapidly eroding cliffs fronting the New Plymouth airport. These cliffs contain a pertified forest, and parts of this forest are constantly being exposed by erosion.

Conservation Values: Natural: A, B, C, G, H Cultural: A, D Historic: A

Comment: Reefs which are generally unmodified and in good condition are extensive in this area particularly at the stream mouth. Migratory waders including the threatened (Ref 9) banded dotterel (Charadrius bicinctus), rare (Ref 9) golden plover (Pluvialis fulva) and turnstones (Arenaria interpres interpres) use the Waiongana estuary. The airport cliffs are known as a roost site for banded dotterel (Ref 1 and 5).

The cliffs are also of geological interest, with clear banding and the remains of a forest buried by the Pouakai volcanic eruptions (Ref 2 and 3).

Puketapu, formerly a very influential pa is rapidly eroding over the cliffs. This pa is of great importance to the Puketapu hapu (Ref 4).

The area contains several more historic sites and spiritual sites (HPT County Inventories). Midden and other sites along the cliff edge are exposed by erosion from time to time (Ref 5).

Kaimoana is gathered from the entire reef area, and the point was reputedly a good shark fishing area (Ref 6).

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important due to the presence of rare and threatened (Ref 9) migratory waders such as banded dotterel and golden plover which visit the area.

Existing Threats: Type: A, E, H

Comment: The airport is on top of the 20-30m high cliffs and erosion is casting doubt on the long term future of the cross-runway. Boulders which protect the base of the cliffs from sea action, were removed around 1950 for use as roading material (Ref 6). The mouth of the Waiongana stream is very active, and was accreting markedly, until March 1990, when it changed direction during flooding, carrying away with it part of an adjacent Paua farm (Ref 7 and 8). Water pollution from piggeries, a timber mill and farm runoff occurs in the Waiongana Stream. The Moanui and Waitara outfalls discharge further along the coast and may threaten the Kaimoana beds. The Paua farm outfall pipe also discharges onto the reefs (Ref 7).

Human Modification and Human Use: Type: E, I, J, K (Aqua - culture)

Comment: A paua farm is located at the Waiongana Estuary and has intake and outfall pipes on the coast. The Wanganui Dairy Company outfall is slightly to the north. Gathering Kaimoana from reefs is popular, as is diving and fishing offshore. The New Plymouth Airport is very close and the noise is noticeable.

Existing Protection: Type: D, I

Comment: The northern side of the estuary is only protected by a rural zoning in the District Scheme. The southern side is a Marae Zone and Maori Reserve. A narrow foreshore strip is zoned 'coastal protection' through to the airport cliffs in the District Scheme and is backed by an 'airport protection zone' at the airport. The zoning gives no protection to wildlife values.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Maori elders remember the area well. Good historic site information is available but little is written down.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Ornithological Society Records, Taranaki Museum, 1985-89.
2. Haskell, T R; Palmer, J A. 1984: "An outline geology of Taranaki", Department of Lands and Survey.
3. Neall, V E. 1983: "The Volcanic History of Taranaki" (revised), Department of Lands and Survey.
4. Smith, S Percy 1910: "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.
5. Ron Lambert, Director, Taranaki Museum (pers. obs.) and museum records.
6. Aila Taylor - personal observations, 20 Hume St, Waitara.
7. Department of Conservation files - New Plymouth Field Centre.
8. Paua Farm EIA and Acclimatisation Society and Forest and Bird submissions - held at the Department of Conservation, New Plymouth Field Centre
9. Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No 12: 103p.

Recorded on Existing Databases: All checked

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|--------------------|----------------------------------|--------|
| 1. WERI | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | |
| 6. Other | 7. None | |

Comment:

SSWI - unpublished data available at the Department of Conservation, New Plymouth and Wanganui
HPT - Taranaki County 1984 Q19 site number - 86, 87, 127, 157, 158, 184
Geopreservation : this area probably should be included in this inventory

Other Considerations: Any diseases discharged from the paua farm may endanger the reef shellfish.

Accompanying Maps and Photographs: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Waitara

Site No: CRI 07 0088

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26169 62450

Date: 21.02.90

Brief Description of Site: This 6km length of coast is dominated by the township of Waitara, and the Waitara River which is one of the largest in North Taranaki. Land use is varied and the river is badly polluted, affecting a large area of the surrounding coast. The river also carries a high silt load. The river and adjacent coast has a long and deep cultural, spiritual and historical value to the local Maori people. The sewerage/meatworks outfall just offshore is a problem. Tidal reef systems are extensive, although the estuary has been reduced through human modification.

Conservation Values: Natural: A, B, C, D, E, F, H Cultural: A, D Historic: A, D

Comment: An area of estuarine shrub saltmarsh and reed swamp covering 2ha, near the mouth of the river has been recommended for protection in the PNA programme. The vegetation present in this area includes raupo (*Typha orientalis*), sedge/land of kuta (*Schoenoplectus validus*) on the mud flats, and marsh ribbonwood (*Plagianthus divaricatus*) scrub. This is the only known location of marsh ribbonwood in this Ecological District. Taupata (*Coprosma repens*), koromiko (*Hebe stricta*), cabbage tree (*Cordyline australis*) and flax (*Phormium tenax*) are also present (Ref 1).

Though now badly damaged, the river was previously an important lamprey (*Geotria australis*) fishery. The pollution and poor condition of the river is a cause of deep sorrow to the Maori people. Being a fertile valley, it was highly valued by early Maori, and confiscation of land by European settlers and surveyors sparked the Taranaki Land Wars (Ref 2).

This area is also an important wildlife habitat, with species such as the endangered (Ref 7) white heron (*Egretta alba*), the threatened (Ref 7) royal spoonbill (*Platalea leucorodia regia*) and Australasian bittern (*Botaurus stellaris poiciloptilus*) and rare (Ref 7) variable oyster-catcher (*Haematopus unicolor*). Godwits (*Limosa lapponica*), knots (*Calidris canutus*), pied stilts (*Himantopus leucocephalus*) and cattle egret (*Bubulcus ibis*) are also present (Ref 3 and 8).

Fourteen shipwrecks dot the reefs either side of the Waitara River bar (Ref 4). The area has high recreational value with fishing, boating, surfing and whitebaiting; all popular recreational pursuits. The Waitara Estuary is recognised geologically as being a salt wedge estuary and a good example of an estuary in a tectonically uplifting zone (Ref 9). Airedale reef is also important geologically as it contains roots and trunks of buried forest.

Site Importance: International National Regional Local Unknown

Comment: The area is nationally important geologically (Geopreservation Inventory rating 'B'). The concern of Waitara Maori over water pollution in the Waitara embayment was recognised by the Waitangi Tribunal (Ref 2 and 5). The area is also an important wildlife habitat for birds such as: white heron, royal spoonbill, Australasian bittern and variable oyster-catcher.

Existing Threats: Type: A, B, E

Comment: Water extraction from the upper reaches of the river has a reduced available habitat and lowered habitat quality as well as the river's dilution ability. The water is very polluted from farm run-off and town sewage washing back on the tide. Much of the town is low-lying and threatened by flooding, sea level rise and erosion. The north bank of the river has the highest erosion rate in Taranaki (Ref 5). Inland farming, and clearing of scrub on unsuitable (class 8) land has led to a very high silt load in the river.

Human Modification and Human Use: Type: A, B, D, E, J, H, I

Comment: The estuary is in the centre of an urban area, with extensive modification, draining and river/flood control altering its natural patterns. The river is very polluted, but people still fish, whitebait and set flounder nets. At low tide the mud is 0.6m deep. Two concrete boat ramps, and active yacht, boat and rowing clubs use the lower river. A small marina houses several large yachts. The bar is navigable four hours either side of the high tide. A sewer and meat works outfall is offshore, polluting the foreshore, reefs and river. Surfing is popular at the bar. Several pipes and roads cross the river.

Existing Protection: Type: I, D

Comment: Crown land (Section 58 strip) is present from the south bank to Waiongana Stream. The area is given some protection in the District Scheme with a coastal hazard area, on the north bank of the river mouth. The wetland area is a proposed recreational reserve, which deserves full protection and weed control.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general) Available information (if any)

Comment: The information on shipwrecks is well documented, as is information on water quality. Kaimoana and Maori values are also well documented. The wetland has been surveyed.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Bayfield M A, and Benson M A, 1986 "Egmont Ecological Region Protected Natural Areas Report" Department of Lands and Survey.
2. Aila Taylor - 20 Hume Street, Waitara. Maori contact and local expert.
3. Ornithological Society Records, Taranaki Museum (1979 - 89).
4. Barry Hartley, - 12A Ronald St, New Plymouth, Shipwreck Register.
5. Taranaki Catchment Board files and reports.
6. Theima Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
7. Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No 12: 103p.
8. Fauna Survey Unit - New Zealand Wildlife Service, Department of Internal Affairs, Wellington.
9. Mathews R, 1981. MSc Thesis available from the Taranaki Regional Council.

Additional Contacts and Information

- Personal observations underwater - Bill Sharp (N.P Underwater Ltd), Morrie Whittington, T Wilson (Department of Conservation New Plymouth)
- Morris and Associates - underwater Engineers/Consultants.
- North Taranaki District Council - submissions on Water Right Applications.
- Smith P, 1910, 'History and Traditions of the Taranaki Coast', Thomas Avery Ltd.
- Petrocorp reports 'Maori Seafoods of the Waitara Embayment' Synfuels Pamphlet series.

Recorded on Existing Databases: All checked

- | | | |
|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

Geopreservation, Inventory Record No FOS 2 Airdale Reef (1986): LAN 543 Waitara Estuary (1986)

WERI - site name: Waitara River estuary : Date of survey 1985 : Significance : local

PNA Egmont PNA Report Site No W47.

SSWI Unpublished data available at the Department of Conservation, Wanganui and New Plymouth

HPT Clifton and Taranaki County Inventory 1984 Q19 numerous sites.

Other Considerations: Potential threats include petrochemical spills/discharges on and offshore. Increasing existing flood control stopbanks would further reduce the wetland habitat. Construction of a long overdue sewerage treatment plant will greatly improve this area.

Accompanying Maps and Photographs: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Motunui

Site No: CRI 07 0089

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26213 62456

Date: 21.02.90

Brief Description of Site: This area consists of a 3.75km length of coastline from Turangi Road to Airedale Reef and is a landscape of broken coastline with reefs providing a complex coastal character.

A wealth of offshore reefs are present backed by sand/cobble beaches and low vegetated volcanic cliffs. The major feature of the area is the Motunui Synfuels Plant although this has little physical effect on the adjacent coast. Farmland in this area is predominantly dairying.

Conservation Values:

Natural: F, H

Cultural: A

Historic: B, A

Comment: There are nine recorded historic sites within this area and these include an ancient canoe launch site. Wooden artefacts have also eroded from a swamp area in the past (Ref 1).

Good plant communities are present on the adjacent bluffs with fine ironsand beaches and areas of quite extensive offshore reefs (Ref 2). The reefs are a valuable source of Kaimoana and the area is popular with surfcasters (Ref 3 and 4). This area is part of a 30km stretch of coastal cliffs which are geologically important as they represent a holostratotype of the Tongaporutuan Stage and contain fossils (Ref 9).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is nationally important geologically (Geopreservation Inventory rating 'B') and is the launch site of an ancient canoe.

Existing Threats:

Type: B, E, M

Comment: From time to time these reef systems are heavily inundated by silt and sediment. The source of sediment is presumably from the Waitara River and is carried along to Motunui by the littoral drift (Ref 5).

The area is effected by water pollution from the Waitara River and outfall, and ground water and soil pollution has already occurred at the adjacent Synfuels site (Ref 6).

The Synfuels site has been extensively 'de-watered' (draining of ground water) and this may have affected water tables, however the coastal vegetation appears unchanged (Ref 6).

Human Modification and Human Use: Type: A, H, J

Comment: The land behind the beach is completely modified by the Synfuels plant and it interrupts the landscape and aesthetics from many miles away. However, when on the beach directly in front of the plant, it can't be seen. Massive clouds of steam evaporating do cloud the beach. Kaimoana gathering, surfcasting and passive beach use, are all common in this area. Some use of motorbikes takes place on the beach.

Existing Protection: Type: C, D

Comment: There is a local 20m wide esplanade reserve strip fronting the Motunui plant, which is recognised in the District Scheme. The remainder of the land is zoned "petrochemical development," to allow for Synfuels plant expansion or additional industries (Ref 7).

A trawl ban covers the offshore waters (Ref 8).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Hl Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. New Zealand Archaeological Association Records, Taranaki Museum. File Keeper: Roger Fyfe.
2. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
3. Taranaki Catchment Commission. 1980: "The Recreational Use of Water in North Taranaki".
4. Taranaki Catchment Commission. 1986: "Maori Seafoods in the Waitara Embayment".
5. Aila Taylor (pers comm). 20 Hume Street, Waitara. (Iwi contact and local expert).
6. Taranaki Catchment Board ecological monitoring reports (numerous).
7. Clifton County District Scheme Review, 1989.
8. Horn P, 1986. "Distribution and growth of snapper Chrysophrys auratus in the North Taranaki Bight" New Zealand Journal of Marine and Freshwater Research Vol 20: 419-430.

Additional References

- Synfuels EIA report

Recorded on Existing Databases: All checked

- | | | |
|--------------------|----------------------------------|--------|
| 1. WERI | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | |
| 6. Other | 7. None | |

Comment:

Geopreservation Inventory Record No. FOS 264 - Tongaporutu Coast (1986).
HPT Clifton County Inventory 1982 Q12 numerous sites.

Other Considerations: Further Petrochemical industries would add to the already considerable "accident" risk. Kaimoana is particularly vulnerable to chemical build-up.

Accompanying Maps and Photographs: Aerial and oblique photos held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Buchanans Bay

Site No: CRI 07 0090

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26255 62450

Date: 21.02.90

Brief Description of Site: This is an interesting area offshore, as it contains a huge tidal reef system, backed by sand/cobble beaches, and low, vegetated coastal cliffs. The area is geologically interesting, being the boundary between debris from the Pouakai volcanic eruptions and the uplifted Tertiary mudstones of the northern coast. Adjacent land is in dairy pasture to the cliff edge, and this site covers approximately 4km of coast line.

Conservation Values: Natural: A, C, E, F, H Cultural: A, B, C Historic: A

Comment: The huge offshore reef system is both rich in Kaimoana and marine life and, although it is typical of the Waitara reef systems, it is less polluted than those further south. A spawning ground for snapper (Chrysophrys auratus) and trevally (Caranx georgianus) exists offshore (Ref 3).

The well-vegetated coastal cliffs found here are not common in the area; taupata (Coprosma repens) is the main plant species present (Ref 1). This area is geologically significant as the boundary between debris from the Pouakai volcanic eruptions in the south, and the uplifted Tertiary mudstones further north (Ref 4 and 5). This area is also part of a 30km stretch of coastal cliffs which are nationally important as a holostratotype of the Tongaporutuan stage and contain fossils (Ref 9).

Two historic sites are set well back from the cliff (Ref 2) and a small flat, grassy area below the cliffs is used by a few day-visitors and campers, and has an isolated, wilderness value.

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important geologically (Geopreservation Inventory rating 'B') and is important offshore as a spawning ground for snapper and trevally. The offshore reef system is rich in marine life but has not been assessed nationally.

Existing Threats: Type:

Comment: The threats to this area are generally unknown however the quality of offshore seawater needs monitoring for pollution from the Waitara River (Ref 1).

Human Modification and Human Use: Type: J

Comment: This area is used extensively for the gathering of Kaimoana and fishing (Ref 6 and 7).

Existing Protection: Type: D, C

Comment: An area of local purpose reserve at the end of Turangi Road allows public access. Access to the middle of the bay is across private farmland. This area is zoned 'coastal' in the District Scheme which gives some restriction on development. A trawl ban covers the offshore waters (Ref 8).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: There is little information available on this area even though it is close to Waitara and Motunui, where much research has been carried out.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
2. Archaeological Association Records, Taranaki Museum. filekeep: Roger Fyfe.
3. Horn P, 1986 "Distribution and growth of snapper in the North Taranaki Bight". New Zealand Journal of Marine Freshwater Research, Vol 20: 419-430.
4. Neall, V E, 1974; The Volcanic History of Taranaki". Egmont National Parks Board.
5. Haskell T B, Palmer J A, 1984 "An Outline Geology of Taranaki" Department of Lands and Survey.
6. Taranaki Catchment Commission, 1980: "The Recreational Use of Water in North Taranaki.
7. Taranaki Catchment Commission, 1986: "Maori Seafoods in the Waitara Embayment".
8. Ministry of Agriculture and Fisheries - Central Fisheries Management Plan.
9. Gibson G W, 1963. Some miocene stratigraphy and palaeontology - the Tongaporutuan stage. PhD Thesis - Victoria University.

Maori contact

Aila Taylor, 20 Hume Street, Waitara.

Additional References

- Clarkson B R, Boase M R, 1982. Scenic Reserves of West Taranaki.
 Department of Lands and Survey files and a Ministry of Transport files, held at Department of Conservation, New Plymouth.
 Clifton County Council District Scheme Review 1989.
 Taranaki Catchment Board Reports (several).

Recorded on Existing Databases: All checked

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|--------------------|---------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

- Geopreservation Inventory Record No FOS 264 - Tongaporutu Coast (1986).
- HPT Clifton County Inventory (1982) site number Q19 55, 56, 106, 194.

Other Considerations: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre.

Accompanying Maps and Photographs:

Site Name/s: Onaero

Site No: CRI 07 0091

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26282 62448

Date: 21.02.90

Brief Description of Site: This indented and generally inaccessible 1.5km stretch of coastline is interrupted by only two access points; the beach subdivision and the river mouth, both of which are well-used. The beach subdivision is generally permanent housing and the more established homes are threatened by erosion. The river valley is surrounded by steep banks (Scenic Reserve) that have reasonable native vegetation as does a sacred pa site on the south bank. There are several historic sites in the area. A multitude of baches, a campground, domain and surf club all contribute to high recreational use of the estuary and small adjacent beach. Dairying and horticulture predominate in the land surrounding this site and the river catchment generally.

Conservation Values: Natural: A, B, E, F, H Cultural: B, C, D Historic: A

Comment: Attractive views of the river valley and adjacent reserves are seen by motorists passing on State Highway 3. The vegetation is generally intact and is dominated by kowhai (Sophora microphylla), karaka (Corynocarpus laevigatus) and rewarewa (Knightia excelsa), with some swamp areas supporting pukatea (Laurelia novae-zelandiae) and raupo (Typha orientalis). The locally important (Ref 8) vine Metrosideros carminea is present, and this reserve marks it's southern distribution limit (Ref 1). A large puriri tree (Vitex lucens) (listed as an historic tree, of National interest) is in the Pukemiro Reserve (Ref 7).

Northern blue penguins (Eudyptula minor iredalei) nest around the river mouth and beach, and fossils are present in the cliffs north of the beach (Ref 2). This area is part of a 30km stretch of coastal cliffs which represent an important holostatotype of Tongaporutuan stage (Ref 8).

A famous and noted pa site, Pukemiro, is located south of the motor camp, and contains important spiritual sites (Ref 1) while an ancient Maori pathway runs from the coast at Te Rau o te Huia inland (Ref 5).

The river is particularly popular and is a scenic, recreational area. It becomes crowded during summer and the whitebait season (Ref 3 and 4).

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important for this historic reserve (Pukemiro and Te Rau o te Huia) and Scenic Reserves (Ref 1, 5, 6). This area is also nationally important geologically (Geopreservation Inventory rating 'B').

Existing Threats: Type: A, C, G, L

Comment: A weed, brush wattle (Albizia [=Paraserianthes] lophantha), remains in the reserve despite past control efforts. Erosion and illegal attempts at sea walls are a problem at Onaero Beach. Agricultural and horticultural runoff pollute the river, and this becomes a problem especially as the river mouth is a popular swimming area. Coastal sub-division is also a threat at Onaero beach (Ref 2).

Holiday cottages are already prone to flooding which will be aggravated by the predicted sea level rise. The bank in the front of the boat club building washed away in the last flood, posing a large problem for the council and club (Ref 2).

Human Modification and Human Use: Type: A, H, I

Comment: Horticulture blocks, shelter belts and pasture extend to the cliff edge. Apart from the Onaero River valley. There is little native vegetation remaining. Onaero Beach is a popular urban subdivision and the camp ground and domain receive high recreational use, both during summer and whitebait season. State Highway 3 has good views of the river area.

Existing Protection: Type: D, C, I

Comment: There are several areas of scenic reserve and an historic reserve on the south bank of the river, totalling an area of 12.175ha and all are well fenced. A short strip of esplanade reserve provides for public access to the beach, but is fast eroding. There is a fenced Section 58 strip to the north. District scheme zoning is complex but appropriate, and the council controls an area of Recreation Reserve at the Onaero River (Ref 7).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Little subtidal information is available.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Clarkson, B R and Boase, M R, 1982. Scenic Reserves of West Taranaki. Department of Lands and Survey. 254p.
2. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
3. Taranaki Catchment Commission, 1980; "The Recreational Use of Water in North Taranaki".
4. Taranaki Catchment Commission, 1981; "The Recreational Whitebait Fishery in Taranaki", 82 pages.
5. Smith, S Percy, 1910 - "History and Traditions of Maoris of the West Coast" Thomas Avery Ltd. 562p.
6. Government Files, Department of Lands and Survey and Ministry of Transport Marine Department - available at the Department of Conservation, New Plymouth.
7. Clifton County Council District Scheme Review
8. Gibson G W, 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan Stage. PhD Thesis. Victoria University.

Maori Contact

Aila Taylor, 20 Hume Street, Waitara.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|-----------------|
| 1. WERI | 3. <u>SSWI</u> | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment: Other - Inventory of Nationally Important Historic Trees.
Geopreservation Inventory - Record No. FOS 264 Tongaporutu Coast.
HPT Clifton County Inventory (1982) numerous sites.

Other Considerations: Illegal seawalls at the beach are becoming a public threat, with steel and rubble injuring bathers, and rubbish appearing as fill.

Accompanying Maps and Photographs: Aerials, oblique and location photographs held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Urenui

Site No: CRI 07 0092

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26305 62452

Date: 21.02.90

Brief Description of Site: Urenui is a very popular seaside town and holiday camp and focuses on the river estuary. The estuary, which covers approximately 80 hectares, is in surprisingly good condition and contains tidal mudflats and earth banks. Several important historic sites surround the estuary. Recreational facilities in this area include a large campground and golf course. The surf beach provides for water based recreational pursuits. Whitebaiting is popular in season and several commercial fishing boats operate from Urenui along with a multitude of amateur boats. The river bar can only be navigated two hours either side of high tide.

Conservation Values: Natural: B, C, F, H Cultural: D, E Historic: A

Comment: This site includes two small hillslope strips of secondary coastal forest, one riparian strip along the Urenui River and the other adjacent to the golf course. Notable plants include wharangi (Melicope ternata), Fuchsia perscandens, kowhai (Sophora microphylla) and Gahnia lacera. The forest is "karaka - kohekohe - manuka" (Corynocarpus laevigatus, Dysoxylum spectabile, Leptospermum scoparium) and "karaka/kawakawa - hangehange (Macropiper excelsum/Geniostoma rupestre). These forest remnants are representative of a previously widespread forest type on these marine uplifted terraces (Ref 1).

The estuary is a noted feeding area for waders (Ref 2) and has whitebait spawning habitat (Ref 3). Snapper (Chrysophrys auratus) and trevally (Caranx georgianus) spawn offshore (Ref 4). Two Hector's dolphins, (C. alorhynchus hectori) which is an endangered species, are occasionally sighted (Ref 5).

The area includes several important historic sites, such as Te Urenui, the birth place of Sir Peter Buck and four other pa sites (Ref 6).

The estuary and surrounding coastal area has very high recreational use and is used extensively by school groups (Ref 7). A marae is located within the area. Geologically the area is also important as it is part of a 30km stretch of coastal cliffs which are a holostratotype of Tongaporutuan stage (Ref 10).

Site Importance: International National Regional Local Unknown

Comment: Te Urenui is an important historical site and a national historic reserve (Ref 6). This area is also of national importance geologically (Geopreservation Inventory rating 'B').

Existing Threats: Type: A, C, D, E, L

Comment: The camp ground/domain area, and some houses, are affected by flooding. The predicted rise in sealevel will aggravate this problem (Ref 8). Cattle grazing to the waters edge and the spread of introduced plants, especially willows, has modified the natural estuarine vegetation which is used as spawning habitat by whitebait (Galaxias spp.). Water quality is reduced by runoff from farms and horticultural blocks, and by the intense urban development which use low-lying septic tanks. The water is being monitored for ground water contamination (Ref 3).

Human Modification and Human Use: Type: A, H, I, J

Comment: A large resort of holiday homes and an extensive camp ground are adjacent to the estuary and beach. There is a good concrete boat ramp and thus the area is popular for fishing, surfing and whitebaiting. A golf course is also present. The river has relatively poor water quality. Kaimoana which are harvested include Kuku (mussels), (Perna canaliculus), pipi (Protothaca crassicosta), kotoretore (Isocradactis magna), and pupu (Thais orbita and Turbo smaragdus). In addition eels are also caught in the river (Ref 9).

Existing Protection: Type: A, C, D

Comment: Trawl fishing is banned offshore of this area. Te Urenui is a historic reserve of 2.8 hectares, and well fenced and maintained. The domain and camp are Recreational Reserves under the control of the council. The District Scheme gives appropriate recreational reserve and proposed recreational reserve status and surrounding areas are 'coastal'. Mid-estuary is rural and has no protection.

Availability of Information:

				1. Well documented
Natural	1	<u>2</u>	3	2. Limited information (general)
Cultural	1	<u>2</u>	3	3. Little information (if any)
Historic	1	<u>2</u>	3	
Threats	<u>1</u>	2	<u>3</u>	
Human Mod. & Use	1	<u>2</u>	<u>3</u>	
Protection	1	<u>2</u>	3	

Comment: Little tidal or marine investigation work has been carried out in this area.

Sources of Information:

								1. Derived info. from existing literature and databases
Natural	<u>1</u>	<u>2</u>	3	4	5	6	7	2. Derived info, as above and field check
Cultural	<u>1</u>	2	3	4	5	6	<u>7</u>	3. Derived from existing maps and aerial photographs
Historic	1	<u>2</u>	3	4	5	6	7	4. Recent DOC survey including sampling and analysis
Threats	1	<u>2</u>	3	4	5	<u>6</u>	7	5. Recent DOC survey excluding sampling and analysis
Human Mod & Use	1	2	3	4	5	<u>6</u>	7	6. Experience
Protection	<u>1</u>	<u>2</u>	3	4	5	6	7	7. Expert opinion

References

1. Bayfield M, 1989: "North Taranaki Protected Natural Areas Report" (in press).
2. Ornithological Society records, held at Taranaki Museum.
3. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre (pers. obs.).
4. Horn P, 1986: "Distribution and growth of snapper in the North Taranaki Bight": New Zealand Journal of Marine and Freshwater Research. Vol. 20: 419-470.
5. Warwick Welch and Ken Shorter, Urenui Motor Camp, Box 25, Urenui Phone 23 838.
6. Department of Lands and Survey files, held at Department of Conservation, New Plymouth; and Historic Places Trust Inventory.
7. Taranaki Catchment Commission, 1980 "The Recreational Use of Water in North Taranaki".
8. Clifton County Council District Scheme Review, 1989.
9. Aila Taylor - (pers comm) 20 Hume Street, Waitara.
10. Gibson G W, 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan Stage. PhD Thesis - Victoria University.

Iwi contact - Theresa Wallace Phone 23 247 - Main North Road, RD 44, Urenui.

Local contact - Ken Shorter (see No. 5, above).

Additional References

- Clifton County Council District Scheme Review 1989.
- Government Files held at Department of Conservation, New Plymouth Field Centre.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

WERI : site name - Urenui Estuary : Date of survey - 1981: Significance : local.
Geopreservation Inventory : Record No. FOS 264 Tongaporutu Coast (1986).
SSWI : unpublished data available at Department of Conservation, Wanganui and New Plymouth.
PNA : North Taranaki Report (in press) site no. 28.
HPT : Clifton County Inventory (1982) numerous sites.

Other Considerations: Middle estuary would be vastly improved by riparian fencing.

Accompanying Maps and Photographs: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Mimi-Urenui

Site No: CRI 07 0093

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q19

Grid Ref: 26335 62473

Date: 20.02.90

Brief Description of Site: This site consists of a 7km length of indented coastline with the low level coastal plain, a distinctive feature. The Mimi River estuary has an extensive sandspit and tidal mudflats which merge into a vegetative cover of marram (*Ammophila arenaria*) and lupin (*Lupinus albus*) from the beach. The river banks merge into rank grass, lupin and gorse, then pasture. Waitoetoe beach is approximately 1 km long and is confined by cliffs in the south and the Mimi River in the north. This area has moderate recreational use which includes a few baches, surfing, beach races, whitebaiting and passive recreation. The area also contains important historic/cultural sites. The estuary is approximately 150 hectares. The vertical papa cliffs at Carr's Road have small pockets of native vegetation on the cliff edge and on offshore stacks. A beach of ironsand is below the cliffs.

Conservation Values:

Natural: A, C, D, E, F, H Cultural: B, C, D Historic: A

Comment: The Mimi estuary is characterised by mudflat, sandflat, salt rush, reed swamp and sand dune habitat all of which are uncommon in Taranaki (Ref 1). An assortment of seabirds have been recorded here including the threatened (Ref 10) Caspian tern (*Hydroprogne caspia*) and banded dotterel (*Charadrius bicinctus bicinctus*) (Ref 2). Fluttering shearwater (*Puffinus gavia gavia*) and grey-faced petrel (*Pterodroma macroptera gouldi*) nest on the cliff face and on offshore stacks (Ref 4).

The area has moderate wilderness and recreational value. Recreation includes an annual horse race held on the beach, kaimoana gathering, swimming and surfing, while the estuary is popular for flounder and whitebait fishing (Ref 1). Maori artefacts have been recovered from the dunes, and a number of spiritual sites are recorded in this area (Ref 3). Pa sites are present on the cliffs to the south (Ref 3).

A snapper (*Chrysophrys auratus*) and trevally (*Caranx georgianus*) spawning area has been identified offshore (Ref 5).

This area is also part of the nationally important coastal cliffs which exhibit a holostratotype of Tongaporutuan stage and contain fossils (Ref 11).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is of national important geologically (Geopreservation Inventory rating 'B'). Nationally threatened birds such as Caspian tern and banded dotterel also visit the area (Ref 2). This area is also important in that it supports a mainland petrel colony for two species; fluttering shearwater and the grey-faced petrel.

Existing Threats:

Type: A, C, D, G, K

Comment: Grazing on the dune area at Mimi and the use of offroad vehicles, motorbikes, tractors and horses (by removing fencing) on dune area and not keeping to tracks, is damaging plant cover. The northwards movement of the Mimi River mouth, is increasing erosion at a high rate on the northern side. A small sea wall on north bank in front of the baches, detracts from the wilderness qualities of the area (Ref 1). Predation of nesting seabirds is also a problem at Mimi and the Carr's Road cliffs. Willows and riparian grazing are destroying native habitat in the river.

Human Modification and Human Use: Type: E, H, I, J, K

Comment: At Carrs Road, traditional Kaimoana gathering of kuku (mussels) and pupu occurs. Dairy farming takes place right to the cliff edge, otherwise there is little human use. Marram grass (Ammophila arenaria) planting is being undertaken by Lands and Survey and latterly the Catchment Board to stabilise the dunes on the Maori land at Mimi. This area also receives moderate recreational use such as surfing, surfcasting, walking, floundering, whitebaiting, horse races and picnics (Ref 6 and 7).

There are few baches on the northern (eroding) river bank. All coastal forest has been cleared and two gas pipelines are buried under the estuary (Ref 1).

Existing Protection: Type: A, D, I

Comment: Waitoetoe Road has a 4.5 hectare area of Crown owned recreation reserve. The spit is Maori land and, zoned "proposed recreation reserve" by the Council. The remainder of the area is zoned 'coastal' in the District Scheme which has some development restrictions (Ref 9). At Carrs Road, the cliff edge is Crown land (Section 58 strip). A trawl fishing ban exists offshore.

Availability of Information:

				1. Well documented
Natural	1	2	3	2. Limited information (general)
Cultural	1	2	3	3. Little information (if any)
Historic	1	2	3	
Threats	1	2	3	
Human Mod. & Use	1	2	3	
Protection	1	2	3	

Comment:

Sources of Information:

								1. Derived info. from existing literature and databases
Natural	1	2	3	4	5	6	7	2. Derived info, as above and field check
Cultural	1	2	3	4	5	6	7	3. Derived from existing maps and aerial photographs
Historic	1	2	3	4	5	6	7	4. Recent DOC survey including sampling and analysis
Threats	1	2	3	4	5	6	7	5. Recent DOC survey excluding sampling and analysis
Human Mod & Use	1	2	3	4	5	6	7	6. Experience
Protection	1	2	3	4	5	6	7	7. Expert opinion

References

1. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
2. R Lambert, Ornithological Society Records - Taranaki Museum.
3. New Zealand Archaeological Association Files, Taranaki Museum. File keeper: R Fyfe.
4. Kingett Mitchell and Associates. Waste disposal, biological and oceanographic considerations. North Taranaki Exploration Wells. Report prepared for TCPL Resources Ltd. 176p.
5. Horn P, 1986. "Distribution and growth of snapper in the North Taranaki Bight", New Zealand Journal of Marine and Freshwater Research, Vol. 20: 419-430.
6. Department of Lands and Survey Files, held at Department of Conservation, New Plymouth.
7. Taranaki Catchment Commission, 1980: "The Recreational Use of Water in North Taranaki" and Department of Conservation Files - New Plymouth.
8. "Coastal Reserves Investigation, Review and Proposals for Clifton County" District Scheme.
9. Clifton County District Scheme Review 1989.
10. Bell B, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington, Occasional Publication No 12: 103p.
11. Gibson G W, 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan stage. PhD thesis, Victoria University.

Maori Contact - Theresa Wallace (Ngati Mutunga) - Main North Road, RD 44, Urenui.

Additional References:

Clifton County Council District Scheme Review
Government Files held at Department of Conservation, New Plymouth Field Centre.

Recorded on Existing Databases:

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|---------------------------|----------------------------------|--------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | |
| 6. Other | 7. None | |

Comment:

HPT Clifton County Inventory (1982) site number Q19 2, 3, 9, 26, 30, 60.
WERI : Site name : Mimi : date of survey 1985 : Significance - local.
SSWI : Unpublished data available at Department of Conservation, New Plymouth and Wanganui.
Geopreservation Inventory : Record No FOS 264 1986 : Tongaporutu Coast.

Other Considerations: Riparian planting and enhancement planting at Waitoetoe would greatly improve this area (Ref 8).

Accompanying Maps and Photographs: Aerial and oblique photos held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Waiti

Site No: CRI 07 0094

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26380 62526

Date: 20.02.90

Brief Description of Site: This site consists of a 7 km stretch of coastline, centred around the beach resort of Waiti. With the exception of this bay, the coast has black ironsand beaches backed by soft papa boulders and cliffs which are 20-30m high. Dairy farming, with some drystock, surrounds the area, and the beach and camp ground of Waiti are popular with recreational users.

Conservation Values: Natural: B, C, D, E, F, G, H Cultural: E, F Historic: A

Comment:

Internationally important shark and whale bone fossils have been found in the cliffs here and a once buried forest is now exposed on the tidal reef (interpretive value) (Ref 1). The Waiti beach fixed dunes are covered mainly in marram (Ammophila arenaria), but with some tall karo (Pittosporum crassifolium) and taupata (Coprosma repens) also present. Native herbs are also found especially in the dune hollows. The vulnerable (Ref 6) plant Euphorbia glauca is present on cliffs nearby (C Ogle pers. comm.). A patch of pohutukawa/karo-kawakawa forest is present on the cliff top at the north end of the beach and grows on a thick layer of loamy sand overlying tephra/mudstone substrate. It contains the shrub Wharangi (Melicope ternata) and the tree daisy (Olearia albida) (C Ogle pers. comm.). The cliffs have crevices and sandpockets with small halophytes (saltmarsh species such as Samolus, Selliera, Sarcocornia) (Ref 2). Fluttering sheatwaters (Puffinus gavia) and grey-faced petrels (Pterodroma macroptera) nest on cliffs and stacks, and there are many northern blue penguin (Eudyptula minor iredalei sp). A huge kahikatea (Dacrycarpus dacrydioides) is legally protected (Ref 4). The stream at Waiti is the tribal boundary for Ngati tama and Ngati mutanga (Ref 8). The Historic Places Inventory records show several pa and midden sites in this area (Ref 5). This area is part of a 30km stretch of coastal cliffs which are a holostatotype of Tongaporutuan stage and contain fossils (Ref 9).

Site Importance: International National Regional Local Unknown

Comment: The fossils found here are internationally important and are valuable in piecing together the Earth's history (Ref 1). In addition, the herb Euphorbia glauca, is a nationally important species (Ref 6).

Existing Threats: Type: D

Comment: The cliff top seabird breeding colonies suffer from high levels of predation (Ref 7).

Human Modification and Human Use: Type: A, H, I, J

Comment: Waiti has a cluster of beach homes and a small camp ground and is popular with day visitors who carry out a range of recreational activities such as surfcasting, kaimoana gathering, surfing and swimming. Marram is present on the dunes and heavy trampling between the campground and the beach and on the mudstone shelves at south end of beach occurs (Ref 8).

Existing Protection: Type: C, D

Comment: The Ministry of Agriculture and Fishery have a trawl ban in place offshore. A local esplanade reserve is present along the beach front while coastal zoning under the District Scheme provides some control on development, but vegetation is not protected.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Considering the importance of the area little documentation exists.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Joseph McKee, Box 5083, Palmerston North (Geologist).
2. Colin Ogle - Conservancy Advisory Scientist, Department of Conservation, Wanganui.
3. Kingett Mitchell and Associates. Waste Disposal, Biological and Oceanographic considerations. North Taranaki Exploration Wells. Report prepared for TCPL Resources Limited. 176p.
4. Clifton County District Scheme Review (1989).
5. New Zealand Archaeological Association Files, Taranaki Museum. Filekeeper: Roger Fyfe.
6. Given D. 1990. "Threatened Plant List and Local Plant List". New Zealand Botanical Region (in draft) DSIR Land Resources, Christchurch.
7. H Priest, Conservation Worker, Department of Conservation, New Plymouth Field Centre (Trapping Programme).
8. Taranaki Catchment Commission 1980: The Recreational Use of Water in North Taranaki.
9. Gibson G W. 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan Stage. PhD thesis. Victoria University.

Contacts

George Newton, Waiti Beach Camp Proprietor, Pukearuhe Rd, RD 44, New Plymouth (local contact).
 Stephen White, Pukearuhe Road, RD 44, New Plymouth
 Rodney White, Ngati Tama, Box 203, Waitara
 Theresa Wallace (Ngati Mutunga) Main North Road, RD 44, Urenui
 Mitch Tuuta (Ngati Mutunga) Ph 70473
 Coastal Resource Inventory Site Folders, Department of Conservation, New Plymouth Field Centre.

Recorded on Existing Databases: All checked

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| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. Other |
| 7. None | | |

Comment:

Other: Historic trees of national interest.
 Geopreservation Inventory Record Number FOS 264 (1986) Tongaporutu Coast. (This site probably deserves special mention in the Geopreservation Inventory).
 HPT - Clifton County Inventory (1982). Q18 and Q19. Numerous sites recorded.

Other Considerations:

Accompanying Maps and Photographs: Oblique and aerial photographs held at Department of Conservation, New Plymouth Field Centre

Site Name/s: Pukearuhe

Site No: CRI 07 0095

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26416 62557

Date: 20.02.90

Brief Description of Site: The area consists of a 500m coastal clifftop point which is presently being grazed and overlooks a reef which stretches over 8km offshore.

Conservation Values: Natural: E, H Cultural: D Historic: A B C D

Comment: This area has a wealth of Maori and European history as movement in and out of Taranaki, from the north, had to pass through this point (Ref 1 and 2). This area has spiritual values due to a past history of Maori and European conflict. Approximately 15 pa sites and associated archaeological remains are spread around the area (Ref 3 and 4). The shipwreck 'Alexandra' lies in shallow water just offshore (Ref 5). Considerable recreational use occurs in this area and includes gathering kaimoana, various beach uses and marks the start of the Whitecliffs Walkway (Ref 7).

The reef is a notable as an unusual marine feature in North Taranaki and is rich in marine life (Ref 6).

This area is of national importance geologically as it is part of a 30km stretch of coast which exhibits holostatotype of Tongaporutuan Stage (Ref 11).

Site Importance: International National Regional Local Unknown

Comment: This area is nationally important geologically (Geopreservation Inventory rating 'B') because it contains the holostatotype of the Tongaporutuan stage.

Existing Threats: Type: A, D

Comment: Clifftop erosion of the point in conjunction with grazing, fencing and farm tracks may damage some historic sites (Ref 3).

Human Modification and Human Use: Type: H, J, I

Comment: This area is a popular spot for fishing, kaimoana gathering and picnics. A commercial fishing boat operates from Pukearuhe and small boats launch from the beach. This area is also the main starting point for the Whitecliffs Walkway (Ref 7 and 8).

Existing Protection: Type: A, D

Comment: Pukearuhe Historic Reserve and Scenic Reserve cover an area of 7.4 hectares (ref 9). Some areas of Section 58 strip protection also exist. The District Scheme includes four small areas of Recreation Reserve, the rest is zoned coastal (some restrictions on development) (Ref 10). Historic Places legislation seems inadequate here as the area is threatened by cattle trampling.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	<u>2</u>	3
Historic	<u>1</u>	2	3
Threats	<u>1</u>	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Both reserves have been surveyed botanically and much of the history of the area is recorded. However, only a brief fauna survey has been carried out and there is little information available on this areas offshore values.

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	<u>6</u>	7
Threats	1	<u>2</u>	3	4	5	6	7
Human Mod & Use	1	<u>2</u>	3	4	5	<u>6</u>	7
Protection	1	<u>2</u>	3	4	5	<u>6</u>	<u>7</u>

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References:

1. Smith P, 1910. 'History and Traditons of the Taranaki Coast' - Thomas Avery Publications, 562 pages.
2. New Zealand Historic Places Trust, "Establishment of Military Redoubt at Pukearuhe 1865". New Zealand Historical Places Trust publications.
3. Buist A G, 1964. Archaeology in North Taranaki, New Zealand. A study of field monuments in the Pukearuhe - Mimi - Urenui area. New Zealand Archaeology Association, 102p
4. New Zealand Archaeological Association Files, Taranaki Museum. Filekeeper: - Roger Fyfe.
5. B Hartley - 12A Ronald Street New Plymouth: M Wells - Pukearuhe Road, RD 44, Local Fisherman: P Brendell - Motel Road, Tutukaka: Salvaged parts from the 'Alexandra'.
6. Thelma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth.
7. Taranaki Cathment Commission 1980: The Recreational Use of Water in North Taranaki.
8. Department of Conservation Files "W/W 4", New Plymouth Field Centre.
9. Clarkson B R, and Boase M R, 1982. "Scenic Reserves of West Taranaki. Department of Lands and Survey
10. Clifton County District Scheme Review 1989
11. Gibson G W, 1963. Some miocene stratigraphy and plaeontology - the Tongaporutuan stage. PhD Thesis, Victoria University.

Maori Contacts

Steve and Rodney White, Ngati Tama, C/- Box 203, Waitara or Pukearuhe Road, RD 44, New Plymouth.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|----------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

Geopreservation Inventory Record Number FOS 264 (1986). Tongaporutu Coast.
HPT Clifton County Inventory (1982) site number Q18 - 14, 15, 16, 18, 20, 21, 26, 28, 46, 47, 49, and 50

Other Considerations: A steam piston from the shipwreck has been donated to the Department of Conservation, to mount as a memorial and as a point of interest at the site.

Accompanying Maps and Photographs: Aerial and oblique photographs held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Whitecliffs

Site No: CRI 07 0096

Recorder Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26433 62573

Date: 14.02.90

Brief Description of Site: This 7km length of coastline is largely backed by the Whitecliffs Conservation Forest which is an area of steep papa country covered in coastal forest, with some flat to rolling pasture land at the southern end. The area is traversed by 2 pipelines, which also form the route of the popular Whitecliffs Walkway. The water at high tide hits the base of the cliffs.

Conservation Values: Natural: A, B, C, D, E, F, H Cultural: B, C Historic: A, F, D

Comment: This forest contains some of the best unbroken sea to inland vegetation sequences in the North island, with the rare kingfern (Marattia salicina (Ref 12) present in the Pukearuhe and Waipingau Streams. Hebe speciosa which is vulnerable (Ref 12), is also present and mangeao (Litsea calicaris), Lycopodium deuterodensum and Myosotis petiolata var. pansa (indeterminate) (Ref 12) are at, or near, the southern limits (Refs 1 and 13) of their distribution.

Fluttering shearwaters (Puffinus gavia) and grey-faced petrels (Pterodroma macroptera) nest on the cliffs, and northern blue penguins (Eudyptula minor inedalei) burrow near stream mouths (Ref 2).

Land and seascape values are outstanding, with the "Whitecliffs" being a regional landmark, second only to Mt Taranaki. Both the walkway and beach are popular with recreational users, including surfcaster fishermen. Kaimoana beds are located at Waipingau and Paraninihi and kuku (green lipped mussels) (Perna canaliculus), kotoretore (sea anemone) (Actinia terebrosa), pupu (winkles), paua (Haliotis iris) and kina (Evechinus chloroticus) are all harvested from these reefs. A very healthy population of pingao (Desmoschoenus spiralis = al) (Ref 12) and spinifex (Spinifex sericeus) are located on the dunes at Waipingau Stream (Ref 3). Historic sites include the 'Alexandra' shipwreck, which is a short distance offshore (Ref 4), several pa sites (Ref 5), and the 'hand-dug' Te Horo Stock Tunnel which is a popular tourist feature (Ref 6).

This area is nationally important geologically as it is part of a 30km stretch of coastal cliffs which show a holostratotype of Tongaporutuan stage. In addition the whitecliffs are a prominent and spectacular feature of the landscape and attract many tourists.

Site Importance: International National Regional Local Unknown

Comment: This site is nationally important geologically (Geopreservation Inventory rating 'B'). The presence of vulnerable Hebe speciosa and indeterminate Myosotis petiolata var pansa (Ref 12) make this site nationally important for its botanical values.

Existing Threats: Type: A, D, G

Comment: Coastal erosion is threatening the gas pipeline in several places, with vehicles causing further erosion. Shore stabilisation works at the Waipingau Stream saw marram grass introduced which is now in competition with the native pingao (Ref 7 and 8). The bird colonies suffer predation, and the forest is heavily browsed by goats, possums and pigs (Ref 3).

Human Modification and Human Use: Type: E, H, I, J

Comment: Two gas pipelines and cleared bulldozer tracks traverse the forest. The Whitecliffs Walkway utilises one of the bulldozed tracks while the old stock tunnel gives access from the beach to the cliff top and is a well known feature. Farming and some forestry take place on either side of the state forest. This site is a popular fishing and Kaimoana area.

Existing Protection: Type: A, D

Comment: 1,756 hectares of Whitecliffs forest links with other inland forests and crown reserves, forming a good chain (Ref 3). Offshore waters are included in the Urenui Bay Trawlfree area (Ref 9). Within this area are several registered historic sites (Ref 10). Coastal zoning on the District Scheme restricts development to a degree (Ref 11). The protection here seems adequate.

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	<u>2</u>	3
Threats	1	<u>2</u>	3
Human Mod. & Use	1	<u>2</u>	3
Protection	1	<u>2</u>	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: No sub-tidal information and little marine information is available.

Sources of Information:

Natural	<u>1</u>	<u>2</u>	3	4	5	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	<u>2</u>	3	4	5	6	7
Human Mod & Use	1	<u>2</u>	3	4	5	6	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Reference

1. Bayfield M, North Taranaki Protected Natural Areas Report (in press).
2. TCPL reports - Chris White, Kingett Mitchell and Assoc, Albany, 1989 (several reports).
3. Wilson T, (pers. comm.). Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
4. Bendle P (pers. comm.). Motel Road, Tukukaka: Hartley B, (pers. comm.), 12A Ronald Street, New Plymouth.
5. Smith P S, 1910. History and Traditions of the Taranaki Coast. Thomas Avery Ltd, 562 p.
6. Department of Lands and Survey files - held at Department of Conservation, New Plymouth Field Centre.
7. Ministry of Works and Development stabilisation reports - held at Department of Conservation, New Plymouth Field Centre.
8. Taranaki Catchment Commission, reports and erosion maps. Held at Taranaki Regional Council, Stratford.
9. Central Fishery Management Planning Team (1987). Proposed Central Fishery Management Plan Phase I. Marine Finfish.
10. Taranaki Museum - records and Lambert B. Director - Taranaki Museum. New Plymouth.
11. Clifton County District Scheme Review - 1989.
12. Given D R, 1990. Threatened Plant List and Local Plant List. New Zealand Botanical Region. Vascular Plants (draft). DSIR Land Resources, Christchurch.
13. Druce AP, Ogle C, 1972. Indigenous vascular plants of coastal cliffs and hillsides near Pukearuhe, North Taranaki (Waiiti Stream to Waipingau Stream) (Unpublished Plant List No. 59) Botany Division, DSIR, Lower Hutt.

Maori Contacts

Rodney White, Box 203, Waitara.
Steve White, Pukearuhe Road, RD 44, Urenui.

Local Contacts

Murray Wells, Pukearuhe Road, RD 44, Urenui (Commercial fisher and joint shipwreck salvage).
Mr and Mrs Bryant, Pukearuhe Road, RD 44, Urenui (Property owners at south end of walkway).

Recorded on Existing Databases: All checked.

- | | | |
|---------------------------|----------------------------------|---------------|
| 1. WERI | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Content:

SSWI should include TCPL study results.

HPT - Clifton County Inventory (1982) Q18 numerous sites

Geopreservation Inventory record no. LAN 562 Whitecliffs (1988); FOS 264 Tongaporutu Coast (1988)

PNA North Taranaki PNA report (1988) record no. 18.

Other Considerations: Amateur shooting of wild animals is prohibited, due to the gas pipelines, hence there is a high goat and pig population.

Accompanying Maps and Photographs: Oblique and aerial photographs, vegetation, erosion and pipeline maps held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Tongaporutu - Waikorora Stream

Site No: CRI 07 0097

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26466 62620

Date: 19.02.90

Brief Description of Site: This site is a 6km length of coast with uplifted and shattered marine terraces and of papa conglomerate with perched bogs and wetlands. Waikiekie has two stands of coastal forest on the northern margin of the Whitecliffs stewardship area 165 hectares. Surrounding land is in pasture and grazed by sheep and cattle.

Conservation Values:

Natural: A, C, E, F, H

Cultural: B, C, D

Historic: A

Comment: This stretch of coastline can be traversed by an easy graded track and affords splendid views (Ref 1). Waikiekie has the best remaining examples of primary coastal hardwood and podocarp hardwood forest on the west coast of the North Island. Puriri (Vitex lucens), tawa (Beilschmiedia tawa), mahoe (Melicytus ramiflorus) and karaka (Corynocarpus laevigatus) are the dominant species, with occasional specimens of mangeao (Litsea calicaris), kohekohe (Dysoxylum spectabile), hinau (Elaeocarpus dentatus), rewarewa (Knightia excelsa) and manuka (Leptospermum scoparium) (Ref 2).

Katikatiaka Pa is believed to have had a violent past and makes many people, both Maori and Pakeha, feel uncomfortable (Ref 3, 4). The evidence of Maori occupation can be frequently seen in the many campsites and midden present and this area is a well known pre-European pathway (Ref 5). Grey-faced petrels (Pterodroma macroptera gouldi) nest on offshore stacks (Ref 6 and 7). This site is of national importance because of the spectacular whitecliffs (Geopreservation Inventory) and this area is also part of a 30km stretch of coastal cliffs which exhibit a holostratotype of the Tongaporutuan stage (Ref 11).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is nationally important geologically (Geopreservation Inventory rating of 'B') and contains the holostratotype of the Tongaporutuan stage (Ref 11). It also has the best remaining examples of primary coastal hardwood and podocarp hardwood forest on the west coast of the North Island (Ref 2).

Existing Threats:

Type: A G D

Comment: Erosion, and attempts to stabilise the cliffs, in order to protect the gas pipelines, all threaten the conservation values of this area (Refs 8 & 9). There is also some predation on the sea bird burrows.

Human Modification and Human Use: Type: H E

Comment: Whitecliffs walkway is a popular tourist walk and follows one of two major pipelines that traverse the area.

Existing Protection: Type: D

Comment: This area is protected by the Clifton County District Scheme (Ref 10), but this gives no protection to the vegetation.

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	<u>2</u>	3
Historic	1	<u>2</u>	3
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	<u>1</u>	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: There is little landscape information and no subtidal or marine biological is available.

Sources of Information:

Natural	<u>1</u>	2	3	4	5	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	6	7
Threats	1	<u>2</u>	3	4	5	<u>6</u>	7
Human Mod & Use	1	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Wilson T, (pers. obs.). Department of Conservation, Senior Conservation Worker, New Plymouth Field Centre.
2. Bayfield, MA - 1989 'North Taranaki PNA Report' - (in press).
3. Lake B, Taungata whenua, 6 Kirton Place, New Plymouth.
4. NZ Archaeological Association files, held at Taranaki Museum. Filekeeper: - Roger Fyfe.
5. Smith P S, 1910. 'History and Traditions of the Taranaki Coast'. Thomas Avery Ltd. 562 p.
6. Kingett Mitchell and Associated, 1989. Oil Spill Contingency Plans for North Taranaki. Report prepared for TCPL Resources Limited.
7. Lambert R, (pers. comm.). Ornithologist and Director, Taranaki Museum, New Plymouth.
8. Taranaki Catchment Commission - Photogrametric erosion maps and erosion report. Held at Taranaki Regional Council, Stratford.
9. Ministry of Transport - Marine Files - held at Department of Conservation, New Plymouth Field Centre.
10. Clifton County District Scheme Review - 1989.
11. Gibson G W, 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan stage. PhD Thesis, Victoria University.

Maori Contact

Steve or Rodney White - Ngati Tama - Pukearuke Road, RD 44, Urenui or Box 203, Waitara.

Recorded on Existing Databases: All checked.

- | | | |
|---------------------------|----------------------------------|---------------|
| 1. WERI | 2. SSWI. | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

Geopreservation Inventory (1988) LAN 562 Whitecliffs of Taranaki; FOS 264 Tongaporutu Coast.
HPT - Clifton County Inventory (1982) numerous sites.
PNA - North Taranaki PNA report - site name Waikieki.

Other Considerations: A private covenant, or similar, to protect this vegetation is very important.

Accompanying Maps and Photographs: Aerial photos, oblique photos, vegetation, pipeline and erosion maps are held at DOC, New Plymouth Field Centre.

Site Name/s: Offshore Mohakatino/Urenui Bay

Site No: CRI 07 0098

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26460 62700

Date: 190290

Brief Description of Site: This site is an area of offshore coastal waters between Mohakatino and Tongaporutu and covers an area of approximately 2800ha.

Conservation Values:

Natural: C, H

Cultural:

Historic:

Comment: The Ministry of Agriculture and Fisheries have identified a trevally (Caranx georgianus) and snapper (Chrysophrys auratus) spawning ground in this area (Ref 1).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area is one of the two main breeding grounds off this coast for trevally and snapper which are important inshore finfish species (Ref 1).

Existing Threats:

Type: I

Comment: Commercial fishing trawlers take breeding stock and damage juvenile fish (Ref 2).

Human Modification and Human Use: Type: K

Comment: This area is used by commercial trawler fisherman from New Plymouth and Raglan while longline and gillnet boats from New Plymouth and Urenui also fish this area. Surfcasters and Kontiki fishers fish from the shore (Ref 3).

Existing Protection: Type: D

Comment: Parts of this area are within a protective trawling ban (Ref 4). It is proposed that this zone is extended in the draft Central Fisheries Management Plan (Ref 4).

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment:

Sources of Information:

Natural	<u>1</u>	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Recreational	1	2	3	4	5	6	<u>7</u>
Human Mod & Use	<u>1</u>	2	3	4	5	6	<u>7</u>
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

Reference:

1. Horn, P L. 1986. Distribution and Growth of Snapper Chrysophrys auratus in the North Taranaki Bight and Management implications of this data. New Zealand Journal of Marine and Freshwater Research. Vol. 20: 419-430.
2. Wilson, T. Department of Conservation, New Plymouth Field Centre. (pers. obs.).
3. Whitehead, B. Ministry of Agriculture and Fisheries, New Plymouth.
4. Central Fisheries Management Planning Team 1987. Proposed Central Fishing Management Plan Phase I, Marine Finfish. (a) Background papers. Ministry of Agriculture and Fisheries. Internal report.
5. Ministry of Agricultural and Fisheries Records, New Plymouth.

Maori Contacts

Bob Wetere c/- Post Office, Mokau (Ngati Maniapoto)
 Brownie Lake, 6 Kirton Place, New Plymouth
 Rodney White, PO Box 203 Waitara (Ngati Tama)
 Theresa Wallace, 19 Calgher Avenue Waitara (Ngati Mutunga)

Recorded on Existing Databases:

- | | | |
|--------------------|---------------------------|-----------------|
| 1. WERI | 2. SSWI | 3. PNA |
| 4. Geopreservation | 5. HPT County Inventories | 6. <u>Other</u> |

Comment: Ministry of Agriculture and Fisheries data bases, Nelson.

Other Considerations: This area requires further protection of spawning grounds and juvenile fish and is being investigated for possible marine protection by the Department of Conservation.

Accompanying Maps and Photographs:

Site Name/s: Tongaporutu

Site No: CRI 07 0099

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26485 62643

Date: 16.02.90

Brief Description of Site: This site is a largely unpolluted mudflat estuary, bounded by bluffs and hardwood forest, including cliff edges and offshore stacks. This site covers approximately 120 hectares. State Highway 3 joins the coast at this point and crosses the estuary. A small cluster of retirement and holiday houses line part of the southern bank.

Conservation Values:

Natural: A C D E F H

Cultural: B C D

Historic: A B D E

Comment: Impressive land and seascapes can be viewed from the main highway and roadside rest areas. The views include a tidal sandflat and vertical cliffs with stacks, caves, tunnels and adjoining coastal forests (Ref 1). The overhead canopy vegetation is typically rewarewa (*Knightsia excelsa*), karaka (*Corynocarpus laevigatus*) kohekohe (*Dysoxylum spectabile*) while the understorey vegetation consists of mixed shrubs and perching lilies (species unknown) and rengarenga (*Arthropodium cirratum*). Willows are also present. The area has considerable botanical value, being one of the few areas in Taranaki with coastal native forest and scrub. There are several small areas of wetland, with plant life that is uncommon in Taranaki (Ref 2).

Offshore stacks and cliff edges have breeding colonies of fluttering shearwater (*Puffinus gavia gavia*), and northern blue penguins (*Eudyptula minor iredalei*) inhabit the area. The estuary contains many species of shellfish (Ref 3).

Several historic pa sites are present, including Pou Tehia which is an historic reserve. This 0.8ha sharp sandstone knob is in native vegetation and is of spiritual importance to Maori (Ref 2). A cemetery is located on the northern headland. A pa is evident on the southern bank and is of extraordinary size (Ref 1). Maori rock art is visible in a cave in this area (Ref 4, 5) and there is a shipwreck site off Umukaha Point (Ref 6).

The seascapes viewed in this area are popular with artists and photographers (Ref 1). This area is also of interest geologically as it is part of the regionally important North Taranaki uplifted marine terraces, and has stacks and cliffs showing excellent turbidite exposures (Ref 15).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site has nationally important landscape and historic values such as the Pou Tehia Historic Reserve and important Maori Rock Art (Ref 5) being one of eighteen New Zealand rock art locations in the North Island.

Existing Threats:

Type: A, D, G

Comment: Flooding, erosion and the threat of a sea level rise has resulted in the installation of groynes and a seawall to protect leasehold property. These structures have in turn altered parts of the estuary. Erosion still threatens SH 3 (Ref 7). The offshore stacks are eroding rapidly which is probably affecting shearwater colonies (Ref 1). The rock art is also being affected by erosion and is flaking off (Ref 4). The cliff top breeding colonies also have high a number of predators.

Human Modification and Human Use: Type: A, E, H, I, J

Comment: There are approximately 30 cottages sited on the south bank of the river, either side of the SH 3 bridge. Two gas pipelines cross the estuary. This area is used extensively for recreation, both passive and active (waterskiing, whitebaiting, floundering) (Ref 8 and 9). Boats are launched from the concrete ramp, and t/ includes one commercial operator. The bar across the river mouth is only navigable two hours either side of. Other boats launch at Urenui to commercially and recreationally fish this area (Ref 10). Kaimoana is high tide harvested in the estuary and from nearby reefs. Access to the Tongaporutu forest is also from here, and it is the finishing point of the Whitecliffs Walkway (Ref 1).

Existing Protection: Type: A I D

Comment: This area includes Pou Tehia Historic Reserve (0.8 hectares) and a small urupa which is protected by the Historic Places Trust Act and cemetery reserve. There is approximately 150 hectares of Tongaporutu State Forest which borders part of the estuary. A small recreation reserve on the south bank is leased to private bach owners which is contrary to Department of Lands and Survey agreement (Ref 11). This area is the top end of the current Ministry of Agriculture and Fisheries trawler ban (Ref 12 and 13). Appropriate designation in District Scheme gives some protection from development (Ref 14).

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment : Pou Tehia Historic Reserve is only recorded in the Scenic Reserves of West Taranaki.

Sources of Information:

Natural	1	<u>2</u>	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	<u>2</u>	3	4	5	6	7
Threats	1	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	<u>6</u>	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Wilson T, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
2. Clarkson B R, and Boase M R, 1982. "Scenic Reserves of West Taranaki" Department of Lands and Survey.
3. White C, Kingett Mitchell and Associates, 1989. Bird Survey Data for TCPL Resources Ltd.
4. Hartley, B. 12A Ronald Street, New Plymouth.
5. Trotter M, and McCulloch B, 1971. Prehistoric Rock Art of New Zealand. 2nd edition. AH & AW Reed (p. 42).
6. de Jardine M, 1948 'Shipwrecks On and off the Taranaki Coast'
7. Ministry of Transport files (Harbours Act), held at Department of Conservation, New Plymouth Field Centre.
8. Department of Lands and Survey, 1982 'The Tongaporutu-Awakino Coastline : A Recreation Survey'.
9. Taranaki Catchment Commission, 1980. "The Recreational Use of Water in North Taranaki".
10. Shorter K, (pers. comm.) Beach Camp, PO Box 25, Urenui.
11. Department of Lands and Survey and New Zealand Forest Service files - held at Department of Conservation, New Plymouth Field Centre.
12. Horn P L, 1986. Distribution and growth of snapper Chrysophrys auratus in the North Taranaki Bight, and management implications of these data. New Zealand Journal of the Marine and Freshwater Research. Vol. 20: 419-430.

13. Central Fisheries Management Planning Team (1987). Proposed Central Fishery Management Plan Phase 1. Marine Finfish (a) Background Papers. Ministry of Agriculture and Fisheries (unpublished document).
14. Clifton County Council. District Scheme (1989).
15. Chappell J, 1975. Upper Quarternary warning and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand Journal of Geology and Geophysics 18(1): 129-155.

Maori Contact

Rodney White, Box 203, Waitara.

Additional Local Contacts

Lyn Mantle, Tongaporutu, RD 48, Urenui - Wildlife.
Petersen Family, Ahitito Store, RD 48, Urenui

Additional References

Smith P S, 1910. "History and Traditions of the Taranaki Coast" Thomas Avery Ltd.

Recorded on Existing Databases: All checked.

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|---------------------------|----------------------------------|----------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

WERI record name - Tongaporutu Estuary: Date of Survey - 1981: Significance - local.
SSWI - unpublished data available at Department of Conservation - Wanganui and New Plymouth.
Geopreservation Inventory - 1975 record numbers - DEF 124 - North Taranaki uplifted terraces; LAN 488 - Tongaporutu stack and cliffs; FOS 264 - Tongaporutu Coast.
HPT - Clifton County Inventory (1982). Site number Q18, 52, 57, 58, 60, 61, 63, 64, 70, 71, 72.

Other Considerations: Water pollution either up river or offshore would detrimentally affect this estuary. Further areas of bush should be protected and enhancement carried out on the southern side where the pipeline crossing and groynes are located.

Accompanying Maps and Photographs: Aerial and oblique photos held at the Department of Conservation, New Plymouth Field Centre.

Site Name/s: Mohakatino to Tongaporutu

Site No: CRI 07 0100

Responsible Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26492 62696

Date: 16.02.90

Brief Description of Site: This site is approximately 9km in length and is characterised by uplifted tertiary coastal cliffs, backed by a pronounced coastal terrace. The surrounding land is generally in pasture to the cliff, though there are some flax communities and coastal forest in gullies and on headlands. State Highway 3 runs along the length of this area, affording motorists spectacular coastal views.

Conservation Values:

Natural: A B C D E F H

Cultural: B C D

Historic: A E

Comment: The cliffs have high interpretive and scientific values for coastal processes (Ref 1). The island pa of Te Kawau is characterised by striking sandstone cliffs and attractive coastal vegetation (Ref 2). Te Puia is a similar headland pa, of approximately 3 ha, with vigorously regenerating coastal vegetation (Ref 3). Both sites are important to the Ngati Tama people, historically and spiritually (Ref 4). Te Kawau is a national Historic Reserve of spiritual significance (Ref 2). The valleys and accessible areas contain northern blue penguin (*Eudyptula minor iredalei*) burrows, while white-fronted terns (*Sterna striata*) and fluttering shearwater (*Puffinus gavia gavia*) nest on offshore stacks and clifftop areas (Ref 5). Valleys are in indigenous coastal scrub including the tree daisy *Olearia albida* var. *albida*. There is little sign of human influence to observers on the beach (Ref 6).

This area is also of interest geologically as it is part of a larger area identified as the North Taranaki uplifted marine terraces. The Tongaporutu Coast is nationally significant in that it represents a holostratotype of the Tongaporutuan stage and contains fossils (Ref 13).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This area contains a national historic reserve which is administered by the Department of Conservation. There are few highly visible areas such as this that show easily interpreted, coastal uplift landscape feature (Ref 7). This area is also nationally important geologically (Geopreservation Inventory rating 'B') being part of the holostratotype of the Tongaporutuan stage.

Existing Threats:

Type: D J

Comment: Possum damage is affecting coastal vegetation and stock, which graze to the cliff edge, trample shearwater burrows. High predation by cats, stoats and rats also occurs at these breeding sites (Ref 3, 8). Rubbish dumping is noticeable at specific sites, such as Te Kawau and spoil is dumped at Rapanui (Ref 6).

Human Modification and Human Use: Type: H I

Comment: The coastal area below the pasture terrace is little modified. There is a walkway to the base of Te Kawau, and a surfcasters track along Te Puia. Headlands are frequented by surfcasters and day visitors make occasional use of the accessible sections of the beach. Good scenic views are available from a roadside picnic area while whitebaiters use Rapanui Stream (Ref 10 and 11)

Existing Protection: Type: A D

Comment: Te Kawau Historic Reserve is a registered historic place and archaeological site covering approximately 1ha (Ref 2). It is highly desirable to extend this site to cover Te Puia (Ref 3) which is an area recommended for protection under the Protected Natural Areas Programme (Ref 3). The surrounding area is zoned 'coastal' in the Clifton County District Scheme Review providing building and development restrictions (Ref 12). The protection at Te Kawau is adequate.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Little marine information is available.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7
Protection	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Chappell, J. 1975 - "Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, NZ". New Zealand Journal of Geology and Geophysics 18(1) 129-155.
2. Clarkson B and Boase M, 1982 'Scenic Reserves of West Taranaki' Department of Lands and Survey.
3. Bayfield, MA. North Taranaki Protected Natural Areas (in press)
4. Smith P, 1910. 'History and Traditions of the Taranaki Coast' Thomas Avery Ltd. 562 p.
5. TCPL Resources Ltd - Environmental Studies. Prepared by Chris White, Kingett Mitchell and Associates, Albany.
6. TheIma Wilson, Senior Conservation Worker, Department of Conservation, New Plymouth Field Centre.
7. Colin Ogle, Conservancy Advisory Scientist, Department of Conservation, Wanganui.
8. Lyn Mantie, (pers. comm.) Tongaporutu, RD 48, Urenui.
9. Government files - New Zealand Wildlife Service held at Department of Conservation, New Plymouth Field Centre.
10. Department of Lands and Survey, 1982. "The Tongaporutu - Awakino Coastline: A Recreation Survey".
11. Department of Lands and Survey, 1983. Coastal Reserves Investigation, Review and Proposals - Clifton County. 42 p.
12. Clifton County District Scheme Review, 1989
13. Gibson G W, 1963. Some miocene stratigraphy and paleontology - the Tongaporutuan stage. PHD thesis, Victoria University.

Maori Contact

Ngati Tama Iwi - Rodney White, PO Box 302, Waitara.

Recorded on Existing Databases: All checked.

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| 1. WERI | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

SSWI - unpublished data available at Department of Conservation, New Plymouth and Wanganui.
PNA - North Taranaki PNA Report (1988). Site No. 12 - Te Puia.
Geopreservation Inventory - record number DEF 124 North Taranaki uplifted terraces (1975). FOS 264 Tongaporutu Coast (1975).
HPT Clifton County Inventories (1982). Site number Q18 - 55, 56, 59, 62, 75.

Other Considerations: Part of this area is being considered for a Marine Protected Area

Accompanying Maps and Photographs: Vegetation maps, aerial and oblique photos held at Department of Conservation New Plymouth Field Centre.

Site Name/s: Mohakatino

Site No: CRI 07 0101

Proprietors Name: Thelma Wilson

Conservancy: Wanganui

Map No: Q18

Grid Ref: 26500 62745

Date: 16.02.90

Brief Description of Site: This 3km length of coastline includes the Mohakatino estuary and adjacent uplifted marine terraces. The iron sand beach is backed by 20-30m cliffs, which front a narrow pasture plateau. Sheep and occasionally cattle, graze to the cliff edge. State Highway 3 and two gas pipelines traverse the plateau which rises again to steep hills. The Mohakatino River drains a catchment of indigenous forest and the wetland is one of the few unmodified reed swamps in Taranaki.

Conservation Values:

Natural: A B C D E F G H

Cultural: C D

Historic: A

Comment: The landform is unusual and dramatic. The estuary and estuarine swamp are one of the least modified in Taranaki (Ref 1). The sand flats and reed swamp support the Australasian bittern (Botaurus stellaris poiciloptilus) which is a threatened species (Ref 12). Variable Oystercatcher (Haematopus unicolor) which is rare (Ref 12) and pied stilt (Himantopus himantopus leucocephalus) are also present. Caspian terns (Hydroprogne caspia) which are threatened (Ref 12) have been recorded nesting on the spit (Ref 2, 3, 4, 13).

Whitebait (Galaxias sp), flounder (Rhombosolea sp) and shellfish are present in the estuary, and the swamp is the only location of the rush Juncus caespiticius in this ecological district (Ref 4, 13). The adjacent stand of tainui trees (Pomaderris apetala) are of ecological, spiritual and historical significance. These trees are the southern-most stand, and legend tells that they have grown from green floor saplings of the Tainui canoe (Ref 4, 5, 13). The bupestrid beetle (Neocuria eremita) is also present at this site and it is noted that this is the only location where it occurs in abundance (Ref 6). This area is regionally important geologically as it is part of the North Taranaki uplifted marine terraces. In addition the Mohakatino Estuary is considered to be regionally important as an interesting estuarine swamp (Ref 14). A daisy, Leptinella (Cotula dispersa subsp. dispersa has its northern limit here on the west coast of the North Island (Ref 15).

Site Importance:

International

National

Regional

Local

Unknown

Comment: This site is to be allocated to the Department of Conservation for full Reserve Status for its high historic and botanical and wildlife values. The Mohakatino Estuary is rated as nationally significant in the Wetlands Inventory (WERI). The cultural significance of this site is considerable (see above) but has not been assessed.

Existing Threats:

Type: A D G J

Comment: Erosion from time to time eats away at the State Highway 3 road bridge, farm access tracks and baches. Control measures have included piling and the introduction of mangroves (Avicennia marina var. resinifera). Only two mangroves survive, so they are not considered a great threat to the estuary. Cattle graze the unfenced margins destroying the natural vegetation and adding to river siltation. Adjacent farmers and road crews deposit 'fill' into the wetland, and have drained parts of the habitat (Ref 7, 8 & 9).

Human Modification and Human Use: Type: A B E F H I

Comment: A bulldozed track down the cliff at Mohakatino Station gives unobtrusive access to the beach and is popular with recreational users (Ref 10). The two gas pipelines and State Highway 3 all cross the estuary. A small group of baches front the estuary, and recreational fishing, floundering, whitebaiting and shellfish collecting are all carried out here (Ref 7).

Existing Protection: Type: I

Comment: The wetland area and Tainui forest, of approx 30 hectares have been allocated to the Department of Conservation and are zoned 'coastal protection' in the District Scheme (Ref 11).

Availability of Information:

Natural	1	<u>2</u>	3
Cultural	1	2	<u>3</u>
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Human Mod. & Use	1	2	<u>3</u>
Protection	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: Little information is available generally, especially for estuarine and marine species.

Sources of Information:

Natural	1	<u>2</u>	3	4	5	<u>6</u>	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	<u>1</u>	2	3	4	5	<u>6</u>	7
Threats	1	<u>2</u>	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7
Protection	<u>1</u>	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Nicholls M. Landscape Architect. Department of Conservation, Whangarei Conservancy.
2. Ornithological Society Records, 1975-89. Taranaki Museum, New Plymouth.
3. Lambert R. Director, Taranaki Museum, New Plymouth.
4. New Zealand Wildlife Service Fauna Survey Unit, 1985. New Zealand Wildlife Service, Department of Internal Affairs, Wellington.
5. Smith P, 1910. History and Traditions of the Taranaki Coast. Thomas Avery Ltd. 562 p.
6. Fox K. Invertebrate Collection. Taranaki Museum, New Plymouth.
7. Wilson T. Department of Conservation, New Plymouth Field Centre.
8. Taranaki Catchment Commission Studies and reports. Held at Department of Conservation, New Plymouth Field Centre.
9. Ministry of Transport, Marine Division files. Held at Department of Conservation, New Plymouth Field Centre.
10. Department of Lands and Survey, 1981-82. The Tongaporutu-Awakino Coastline: A Recreational Survey.
11. Clifton County Council District Scheme Review, 1989.
12. Bell B D, 1986. The Conservation Status of New Zealand Wildlife, New Zealand Wildlife Service. Department of Internal Affairs, Wellington, Occasional Publication No. 12: 103p.
13. Clarkson B D, Clarkson B R, Boase M R, 1981. Mohakatino farm settlement, biological assessment. Unpublished report. Landcorp, New Plymouth. File 4/305.
14. Chappell J, 1975: Upper Quaternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand. New Zealand of Geology and Geophysics 18(1): 129-155.
15. Lloyd D G, 1972. A revision of the New Zealand, Subantarctic and South American species of *Cotula*, Section *Leptinella*. New Zealand Journal of Botany 10: 277-372.

Additional References

Patterson Estate. Protected Natural Areas File. Department of Conservation, New Plymouth Field Centre.
Lands and Survey files (including Mohakatino Farm Block). Held at Department of Conservation, New Plymouth Field Centre.

Maori Contacts

- Ngati Maniapoto Brownie Lake, 6 Kirton Place, New Plymouth.
 Ngati Tama Steve White, Pukearuhe Road, RD 44, Urenui.
 Rodney White, PO Box 203, Waitara.

Recorded on Existing Databases:

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|---------------------------|----------------------------------|-----------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. <u>Other</u> |
| 7. None | | |

Comment: Inventory of historic trees (includes references to the Tainui trees).

HPT - Clift County Inventory site Number R 18 - 10, 12, 17.

WERI - record name - Mohakatino River Mouth: date of survey - 1981: Significance - National.

SSWI - unpublished data available at Department of Conservation, New Plymouth and Wanganui.

PNA - 1988 Existing protection.

Geopreservation Inventory-record number. DEF 124 North Taranaki uplifted terraces 1986; LAN 308 Mohakatino Estuarine Swamp 1988.

Other Considerations: A marine protected area is being considered for this coast. Riparian fencing and planting would greatly improve this estuary.

Accompanying Maps and Photographs: Vegetation maps, aerial and oblique photos held at Department of Conservation, New Plymouth Field Centre.

Site Name/s: Mokau River Inland

Site No: CRI 07 0102

Recorders Name: Thelma Wilson

Conservancy: Wanganui

Map No: R18

Grid Ref: 26540 62576

Date: 15.2.90

Brief Description of Site: This area runs adjacent to the river for approximately 22km in length. A major North Taranaki River, the Mokau is tidal for some 30km inland, and navigable for over 50km. Boating is a major method of transport. Much of the area is in native forest, and it contains complete zonation sequences from estuarine vegetation, freshwater swamp, swamp forest and hillslope forest.

Conservation Values:

Natural: A B C D F H

Cultural: A B C

Historic: A D

Comment: The area contains good examples of natural mudflat and tidal wetland communities which are otherwise rare in North Taranaki. Bird life includes the bittern (*Botaurus stellaris poiciloptilus*) which is threatened (Ref 10), North Island Fernbird (*Bowdleria punctata vealeae*), which is regionally threatened (Ref 10) and Spotless Crake (*Porzana tabuensis*) (Ref 1). Several whitebait (galaxiid) spawning areas have been identified in this area (Ref 2 and 3).

Intact vegetation sequences rise from the tidal river to ridge crests, and the scenery is impressive. This area provides the only estuarine habitat for the fernbird in the Ecological District (Ref 11) and the only *Coprosma propinqua - Olearia solandri* type scrub in the Ecological District (Ref 1). A wrecked coal barge is visible in the river and early coal mines and a lime kiln are of historic interest (Ref 4). The river was a major pre-European highway, providing access to the King Country and Waikato areas (Ref 5, 6 & 7). Flax is gathered from the wetland areas and used traditionally for weaving by Maori. Traditional fishing for whitebait, eels and freshwater mussels is also carried out in the Mokau River.

Site Importance:

International

National

Regional

Local

Unknown

Comment: The birdlife in the area includes species that are nationally and regionally threatened (Ref 10) as mentioned under "natural".

Existing Threats:

Type: A C D E F J M

Comment: Poor soils and high wild animal numbers lead to erosion and slipping. The spread of willow trees (*Salix sp*) and cattle grazing to the waters edge, has reduced galaxiid (whitebait) spawning habitat. Existing farming, logging operations and coal mining in the catchment reduce the water quality, and two small dams in the headwaters draw off some of the main flow which reduces water levels and make the river more prone to temperature rises and sediment build-up. The town rubbish dump adjacent to the lower estuary encourages predators in plague proportions (cats and rats) and refuse pollutes the estuary (Ref 4).

Human Modification and Human Use: Type: E I

Comment: In many places the land is cleared and in pasture to the waters edge. Two gas pipelines cross the lower estuary, but are well buried. Approximately 200 whitebaiters fish the river every season, and there are approximately 120 wooden jetties on its banks (Ref 4, 8, 9).

Existing Protection: Type: Type: A

Comment: Approximately twenty Scenic Reserves and some areas with the Queen's Chain protection exist over this area. There is a possibility that this area may be included in a North Taranaki Park. Most reserves require completion of fencing and wild animal control. The local rubbish dump is located within a Scenic Reserve and thus this protection is not adequate (Ref 7).

Availability of Information:

Natural	<u>1</u>	2	3
Cultural	1	<u>2</u>	3
Historic	1	2	<u>3</u>
Threats	1	2	<u>3</u>
Hum. Mod. & Use	1	2	<u>3</u>

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: A limited amount of information was gathered around the time of a coal mining/power station proposal (1986) and covered: history, vegetation, wildlife and cultural values from this area.

The use of the river as a land district and provincial boundary complicates the availability of existing information.

Sources of Information:

Natural	1	<u>2</u>	3	4	5	6	7
Cultural	<u>1</u>	2	3	4	5	6	7
Historic	1	<u>2</u>	3	4	5	6	7
Threats	<u>1</u>	2	3	4	5	<u>6</u>	7
Human Mod & Use	<u>1</u>	2	3	4	5	<u>6</u>	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Bayfield M. 1989. North Taranaki Protected Natural Areas Report (in press).
2. Williams B. (pers. com.) Department of Conservation, New Plymouth Field Centre.
3. Mitchell C. (pers. com.) Ministry of Agriculture and Fisheries, Rotorua.
4. Wilson T. Department of Conservation, New Plymouth Field Centre.
5. Smith SP. 1910. 'History and Traditions of the Maoris of the West Coast' Thomas Avery Publications, 562pp.
6. Stokes E, 1988. 'Mokau, Maori culture and Historic Perspectives' University of Waikato, 263p.
7. Government files and publications - Department of Lands and Survey, Department of Conservation, New Zealand Wildlife Service, held at Department of Conservation, New Plymouth.
8. Taranaki Catchment Commission, November 1981. 'The Recreational Whitebait Fishery in Taranaki.
9. Taranaki Catchment Commission, 1980 : 'The Recreational Use of Water in North Taranaki'.
10. Bell B D, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service, Department of Internal Affairs, Wellington. Occasional Publication No. 12.
11. Fauna Survey Unit, New Zealand Wildlife Service, Department of Internal Affairs, Wellington

Additional References

NZ Archaeological Association site records, Taranaki Museum.
 Tainui Museum - Mokau.

Maori Contact

Bob Wetere, C/- Post Office, Mokau

Recorded on Existing Databases: All checked

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| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. PNA |
| 4. Geopreservation | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

WERI - record name - Mokau River : date of survey - 1982: Significance - local.
 SSWI - unpublished data available at the Department of Conservation, New Plymouth and Wanganui
 PNA - North Taranaki PNA Report 1989 (site no, 8B, 8C, 8D, 8E)
 HPT - Clifton County Inventory (1982) numerous sites.

Other Considerations: Future coal mining is likely to take place and the impacts that this will have on the area will depend on the methods used. Riparian planting is highly desirable along the farm boundaries. The rubbish dump should be removed from the Scenic Reserve and river bank.

Accompanying Maps and Photographs: Harbours Act structures, vegetation and coalfield proposal maps held at Department of Conservation New Plymouth Field Centre.

Site Name/s: Mokau River (Coastal)

Site No: CRI 07 0103

Responsible Name: Thelma Wilson

Conservancy: Wanganui

Map No: R18

Grid Ref: 26510 62765

Date: 15.02.90

Brief Description of Site: This area consists of approximately 70 hectares, comprising the lower estuary, the river bar and the beach. The Mokau River is a major geographic feature, draining a rugged catchment, much of which is in native bush. There is a small area of coastal forest adjacent to State Highway 3. Retirement and holiday homes are located on the spit and the area is popular with recreational users in summer and during the whitebait season. Adjoining land use is pastoral farming (sheep and cattle).

Conservation Values: Natural: A B C E F G H Cultural: A C Historic: A B D E

Comment: Representative forest types containing kowhai (*Sophora microphylla*) - lacebark (*Hoheria populnea* var.) adjacent to the coast are now rare in this Ecological District. The area contains whau forest (*Entelea arborescens*) and is the only known location of *Corokia cotoneaster* in this Ecological District (Ref 1). Northern blue penguins (*Eudyptula minor iredalei*) and the white-flipped penguin (*E. minor albosignata*) are known to have a breeding colony at the river mouth, while fur seals (*Arctocephalus forsteri*) occasionally haulout on the surf beach (Ref 2).

The rare variable oystercatcher (*Haematopus unicolor*) and threatened (Ref 17) Caspian tern (*Hydroprogne caspia*) have been recorded breeding on the spit (Ref 3). Also present at this site is the endangered marine mammal Hector's dolphin (*Cephalorhynchus hectori*) which is frequently seen in schools of 6-8 individuals (Ref 18).

The area is surrounded by pa sites and midden, and an unusual limestone cave contains Maori rock art (Ref 4 & 7). Many ships were wrecked on and near the bar, and some wreckage is still visible (Ref 6 and 7). Epiha reef is an important traditional fishery and source of kaimoana for local hapu (Ref 8). In addition this area has dramatic land and seascapes (Ref 2). This area is also part of the North Taranaki uplifted marine terraces which extends from Whitecliffs to Awakino and consists of preserved uplifted Pleistocene terrace remnants and dissected seacliffs. This landform is regionally important (Ref 19).

Site Importance: International National Regional Local Unknown

Comment: This area is a good representative example of a tidal estuary and coastal vegetation and landforms and is now unique in this region (Ref 1 + 9).

The rock art found at Mokau is considered to be nationally important. This area is one of the 18 rock art locations in the North Island, and is comparable to the engravings at Tongaporutu, Kaingaroa and Kohi Valley, Waverley (Ref 4 & 10). Also of national importance is the presence of the endangered Hector's dolphin and the threatened caspian tern.

Existing Threats: Type: A D G F I J

Comment: Parts of the existing urban area are threatened by erosion, particularly the baches on the sand spit (Ref 11). Any further coastal development needs to be carefully sited. The construction of several sea walls has been attempted, including one made of wrecked car bodies and spoil which have been dumped into the river and estuary (Ref 11). Small coal mines exist in the headwaters and larger mining or logging operations would affect water quality (Ref 9). The penguin burrows and other wildlife areas suffer from cat and rat predation (Ref 11). Trawling takes place in an identified snapper (*Chrysophrys auratus*) and trevally (*Caranx georgianus*) fishing ground (Ref 12). Over-fishing of mussels on Epiha reef has also occurred (Ref 8).

Human Modification and Human Use: Type: A B H I J

Comment: A boat ramp, groynes and two gas pipelines are present in the estuary. A new highway bridge is to be built in 1991-92 to replace the existing bridge (Ref 11). Up to 200 whitebaiters are present during the season, and in summer the area is popular for fishing, water skiing, floundering and passive recreation (Ref 12, 13, & 14). Urban development abuts the shore and erosion up river (and probable spoil dumping) has increased the silt load in the river (Ref 2). Epiha reef is still a major source of kaimoana and is harvested by a wide range of people (Ref 2 & 8).

Existing Protection:

Type: C

Comment: A Recreation Reserve of approximately 8 hectares is vested in the Waitomo District Council and a further 8.9 hectares is being purchased at present.

Availability of Information:

Natural	1	2	3
Cultural	1	2	3
Historic	1	2	3
Threats	1	2	3
Human Mod. & Use	1	2	3

1. Well documented
2. Limited information (general)
3. Little information (if any)

Comment: There is comprehensive research available on aspects relating to the coalfields proposals. Little subtidal information is available.

Sources of Information:

Natural	1	2	3	4	5	6	7
Cultural	1	2	3	4	5	6	7
Historic	1	2	3	4	5	6	7
Threats	1	2	3	4	5	6	7
Human Mod & Use	1	2	3	4	5	6	7

1. Derived info. from existing literature and databases
2. Derived info, as above and field check
3. Derived from existing maps and aerial photographs
4. Recent DOC survey including sampling and analysis
5. Recent DOC survey excluding sampling and analysis
6. Experience
7. Expert opinion

References

1. Bayfield M. Protected Natural Areas Survey, North Taranaki (in press).
2. Wilson T, (pers. obs.) Department of Conservation, New Plymouth Field Centre
3. Ornithological Society Records (1980-1989) held at Taranaki Museum
4. Trotter M, and McCulloch B, (1971) "Prehistoric Rock Art of New Zealand" Ref P 42, Pub - AH Reed.
5. New Zealand Archaeological Association Record Files held at Taranaki Museum.
6. de Jardine M, 1948. Shipwrecks On and Off the Taranaki Coast.
7. Barry Hartley, private shipwreck register. 12A Ronald Street, New Plymouth.
8. Maori Contacts - Bob Wetere, Ngati Maniapoto, Mokau. Brownie Lake, 6 Kirton Place, New Plymouth.
9. Mokau coalfield proposals and surveys - Department of Lands and Survey unpublished research.
10. Roger Fyfe, Deputy Director, Taranaki Museum and archaeologist.
11. Government files and publications - Ministry of Agriculture and Fisheries surveys, Oceanographic Institute Report, Ministry of Transport Marine Files - all held at Department of Conservation, New Plymouth.
12. Horn P, 1986. "Distribution and growth of snapper in the North Taranaki Bight". New Zealand Journal of Marine and Freshwater Research. Vol 20: 419-430.

13. Department of Lands & Survey, 1981-82. "The Tongaporutu-Awakino Coastline, A Recreational Survey".
14. "Taranaki Catchment Commission Nov 1981. "The Recreational Whitebait Fishery in Taranaki
15. Taranaki Catchment Commission, 1980 : "The Recreational Use of Water in North Taranaki".
16. Given D R, 1990. Threatened Plant List and Local Plant List. New Zealand Botanical Region. (draft). DSIR Land Resources, Christchurch.
17. Bell B D, 1986. The Conservation Status of New Zealand Wildlife. New Zealand Wildlife Service. Department of Internal Affairs, Wellington. Occasional Publication No. 12. 103p.
18. Hurrell L, (pers. obs.). 66 Blagdon Road, New Plymouth.
19. Chappel J, 1975. Upper Quarternary warping and uplift rates in the Bay of Plenty and West Coast, North Island, New Zealand, New Zealand Journal of Geology and Geophysics 18(1) : 129-155.

Additional References

Local Bodies - District Scheme, Taranaki Catchment Board Reports

Smith SP. "History and Traditions of the Maoris of the West Coast". Thomas Avery Limited, 562p.

Stokes E, 1988. "Mokau, Moari Cultural and Historical Perspectives". University of Waikato.

Recorded on Existing Databases: All checked

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|---------------------------|----------------------------------|---------------|
| 1. <u>WERI</u> | 2. <u>SSWI</u> | 3. <u>PNA</u> |
| 4. <u>Geopreservation</u> | 5. <u>HPT County Inventories</u> | 6. Other |
| 7. None | | |

Comment:

WERI - record name - Mokau River Mouth : date of survey - 1981 : significance - Regional.

SSWI - unpublished data available at the Department of Conservation, Wanganui and New Plymouth.

PNA - North Taranaki report (No. 8A).

Geopreservation Inventory record number DEF 124 North Taranaki Uplifted Terraces (1975).

HPT - Clifton County Inventory (1982) Site number R18, 1, 2, 3, 4, 11.

Other Considerations: An identified PNA area requires protection as well as wild animal control. A reduction of water quality from catchment activities is also a potential threat. Riparian planting of whitebait (Galaxiid) spawning areas is under investigation at present.

Accompanying Maps and Photographs: Vegetation and Harbours Act structure maps.

Oblique and aerial photos held at DOC, New Plymouth Field Centre.
