

Part 3

Significant Resource Management Issues

Part 3 - Significant Resource Management Issues

3.1 Introduction

This section states the significant resource management issues for the Chatham Islands and its people. Background information is introduced and the issues then summarised. The issues are addressed in the objectives, policies and methods in the sections that follow.

Issues may have some relevance in more than one section and this is notated where appropriate.

3.2 Sustainable Management and Chatham Community Values

3.2.1 Background

The Chatham Islands are a small isolated group of islands whose economic and social welfare is inextricably linked to the sustainable management of the natural and physical resource base, which provides, directly or indirectly, for the livelihood of the vast majority of islanders.

The very fact that the Chathams are an island group with a small population and hence “small voice” in a global sense, means they are particularly susceptible to external pressures. The effects of those external influences are more obvious than in a non-island situation and makes the resource base vulnerable. Inadequate input to the management of resources by islanders could lead to a mismanagement and ultimately a depletion of resources thereby resulting in a cessation or a severe reduction of the community.

The residents also have a unique lifestyle. Important elements include the open space, sense of freedom, safety, lack of time constraints and easy access to hunting activities and the outdoors.

As indicated in Part 1.4, resource management issues do not exist at present in many areas. For example, water quality is high and the landscape is not cluttered with unsightly buildings. The Act however directs that effects include any future effect and any potential effects of high probability or low probability with a high potential impact. A balance must be sought between controlling existing effects and future perceived ones without imposing unnecessary regulations on a community, used to operating without substantial controls.

3.2.2 Issues

- (i) The management of the natural and physical resource base of the Chathams in a manner which enables Chatham islanders to provide for their social, economic and cultural well being while ensuring that the base is sustainable.
- (ii) The retention of those elements of the Chatham Islands way of life which are special, and need to be protected, when considering potential future development and management of the islands' resource base.
- (iii) The level of control necessary to control adverse effects, particularly those of existing low probability but high potential impact.

See also Part 3.3 - 3.13.

3.3 Iwi Perspective

3.3.1 Background

That 61.3% of the Chatham Islands' population identified themselves in the 1996 census as belonging to the NZ Maori ethnic group means that Iwi attitudes and community attitudes towards sustainable management are often similar. There is no deep division with a distinctively different Iwi attitude to that of the community as a whole.

That is not to say that no differences exist at all. Iwi attitudes have developed in a different cultural environment to those of European settlers, so some differences are inevitable. There are also some differences between Moriori and Maori due to their different histories. The overarching intent of the legislation is to allow these differing attitudes to be expressed and to be given due consideration. Due consideration includes taking into account the principles of the Treaty of Waitangi.

Both Moriori and Maori have sites and taonga places which are important to them for cultural and traditional reasons. Their relationship to these sites and places is a matter of national importance to be recognised and provided for.

Iwi culture is undergoing a renaissance, which has been channelled in recent years into the presentation of claims before the Waitangi Tribunal, and into managing the consequences of the fisheries settlement with the Crown. Nevertheless, some issues relating to sustainable management have emerged as being particularly important to Iwi.

3.3.2 Issues

- (i) Waahi tapu sites in sand dunes and forest and kopi groves are susceptible to damage from activities, such as stock grazing in unfenced areas, particularly as it relates to unrecorded sites.
- (ii) The extent to which Iwi manage their ancestral and customary lands including the off-shore islands.
- (iii) Pollution of water resources, including coastal waters, by discharge of contaminants.
- (iv) Traditional food gathering areas such as Te Whanga could be adversely affected by activities such as deterioration in water quality and reduction in access.
- (v) The appropriate level of access to the coastline, lakes etc necessary to obtain and protect resources.

See also Part 3.2 and 3.4 - 3.13

3.4 Water Resources

3.4.1 Background

In the context of this section, water resources are defined as freshwater only. Salt water resources are dealt with under the coastal section of the document, although Te Whanga, which is a mixture of freshwater and salt water, is addressed in this section as the lagoon is not regarded to be in the Coastal Marine Area.

The water resources which include rivers, lakes, wetlands, lagoons and ground water play a critical role in the social, economic, ecological and landscape fabric of the island.

Chatham Island is characterised by a large number of freshwater lakes and brackish lagoons which vary in size according to the influence of the local topography. There are relatively few waterways draining the island and most streams are small and slow flowing. Much of the peat table lands create extensive wetlands. The two largest rivers, the Nairn and Te Awainanga, both drain the southern tablelands on Chatham Island. Significant waterways on Pitt Island include Waipaua Stream and Tupangi Wetlands.

One of the major water resources on the Chatham Islands is Te Whanga. The lagoon is a mixture of freshwater and salt water, and is the largest waterbody, occupying about 20% of the island. The lagoon is of major significance to Iwi and is generally viewed as a valuable community resource due to food gathering and historical associations. It contains significant ecosystem values, including remnants of broad leaved forests, wetland rush species and a rich and diverse fish and bird life. The lagoon has not been commercially exploited in any significant manner up to the present, although it is seen to have potential for such activities as aquaculture in the future. Water quality in the lagoon is generally of a high standard although it is likely to be sensitive to increased inputs of nutrients from the adjoining land due to limited natural flushing between the sea and the lagoon. A combination of onshore north-easterly winds and lower lagoon water discharges results in the build up of offshore sand bars at the mouth, and finally the natural closing of the mouth. The lagoon levels then rise and the mouth either opens naturally or is opened artificially by the Council. The latter action is taken, when the high levels threaten the adjoining roads. The managed lagoon levels are on average lower than in a natural state and this has had an unknown effect on lagoon ecology, although the available evidence indicates that water quality and ecosystems are not adversely affected. Parts of the document dealing with significant indigenous vegetation and habitats of fauna, natural features, public access and Iwi are also relevant to Te Whanga.

The water resources are assessed below in terms of water quality, water quantity, activities in the beds and margins of water bodies and activities on the surface of water.

- The natural quality of surface water and groundwater in Chatham Islands is heavily influenced by the geology of the island with the problems of iron content and water hardness appearing to be wide spread. The extensive peat and peat soils of the southern tablelands causes a strong brown colouration, high humic acid content and low pH of surface waters draining this area.

Water quality can be adversely affected as a result of contaminants from point source discharges and “non-point source” discharges. Point source discharges occur at a definable place, such as a pipe or drain while non-point source discharges enter a water body from a diffuse source such as land runoff or infiltration. Due to the absence of major industrial enterprises (except for the fish factories which discharge into coastal waters) there are only a relatively small number of point source discharges. Stormwater discharges from roofs, driveways etc has not created any apparent adverse effect.

The major sources of non-point discharge on the Chathams are land and soil runoff and faecal contamination from stock. The effects of non-point discharge are exacerbated by the removal of riparian vegetation. This is particularly evident on northern Chatham Island. However, there is little evidence of serious contamination of waterways given the relatively light stock densities, type of stock (sheep as opposed to cattle) and the absence of widespread fertiliser use.

Specific discharges from septic tanks and rubbish tip leachate and other areas of waste, may have localised effects on surface and ground water resources. There is currently little evidence of serious contamination of natural water from these sources. However, any contamination is culturally offensive to Iwi.

The matter of water quality in Te Whanga is referred to above.

- In respect of water quantity, adverse effects can arise from the non-sustainable extraction of ground and surface water. Currently there is no complete record of water abstractions. However, major uses include the Waitangi water supply sourced from a bore, the Kaingaroa water supply sourced from Lake Rangitai, the fish factories which rely on bores and springs, stock water sourced from waterbodies and bores, and dwellings which utilise bores as well as rainwater. Given the small population and development, relatively high rainfall and recharge capacity of ground water resources and limited extraction rates, taking of water has not appeared to create a problem in the past. Potentially this could change such as a need to meet the requirements of a major industrial use. Maintenance of the availability of water resources ensures the sustainability of ecosystems and human activities.
- Activities in the beds and margins of lakes, rivers and wetlands such as the erection of structures, excavation and deposition of material, the removal of vegetation and drainage, can result in a number of adverse effects on ecological and amenity values. Examples of activities include construction of drains and culverts for roading and farming, quarry operations, construction of hydro-dams and aquaculture operations in Te Whanga. Adverse effects could include the reduction of fish passage, bank stability of water courses, amenity and recreation values, Iwi values, the stability of existing structures and public access.
- Adverse effects arising from activities on the surface of water are currently minimal on the Chathams.

3.4.2 Issues

- (i) The role of Te Whanga as a community resource could be threatened by activities which adversely impact on water quality, ecosystems, access, Iwi values etc.
- (ii) The discharge of contaminants particularly as it relates to future potential activities can result in the lowering of water quality that adversely affects human, cultural and natural values.
- (iii) The excess taking of water can adversely affect human and natural values, particularly as it relates to future potential activities.
- (iv) Activities on the beds or margins of lakes, wetlands or rivers can adversely affect the natural character, habitats of indigenous fauna and flora, Iwi values, bed and bank stability, and amenity and recreation values.

See also Part 3.2, 3.3 and 3.6.

3.5 Coastal Environment

3.5.1 Background

While Section 6(a) of the Act requires the preservation of the natural character of the coastal environment and its protection from inappropriate subdivision use and development, the term “coastal environment” is not defined in the Act. However the New Zealand Coastal Policy

Statement (NZCPS) and case law indicates that a 'coastal environment' is an environment in which the coast is a significant part or element. It could thus be argued that virtually all of the Chathams is a coastal environment. This is evident from the maritime influence that is exercised on the Chathams; the island landforms; the dependence on the coast for economic, social and recreational opportunities; and the presence and proximity of coastal features such as dunes, lakes, lagoons, coastal vegetation and habitats, estuaries and seacliffs.

It is therefore not considered feasible or desirable to draw lines artificially defining the coastal environment but rather accept that such an environment is present to a lesser or greater extent throughout the Chatham Islands. It is likely however to be greater closer to the sea and identified with the features referred to above.

The Chathams has a very rich and diverse coastal environment. It includes some 40 different islands comprised in 360 kilometres. The coastline contains long sandy beaches, stretches of rugged cliffs and headlands and indented bays and inlets.

The coastal environment and associated fisheries form a vital local resource and provide an important economic lifeblood of the Chathams. This is borne out by the fact that four of the five main settlements are located directly on the coast with associated jetties, ship and boat maintenance facilities and safe mooring areas.

The coastal environment around the Chatham Islands is constantly subject to high energy wave and wind action and contains a great diversity of dramatic landscapes and physical features. Rocky shorelines and coastal cliffs form a major backdrop to many sections of coastline along parts of the islands. Rocky platforms are often found at the base of the coastal cliffs and are home to a rich diversity of marine fish, shell fish and seaweed species. Interspersed between prominent rocky coasts are sandy shorelines, many of very dynamic nature due to strong wind, wave and tide action. Pioneer species such as the native pingao and the introduced marram grass dominate the foreshore and are backed by dune scrubland and scrub of toroheke and mingimingi and in certain areas coastal forests of akeake and matipo. Uncontrolled grazing of stock has had a significant adverse effect on the coastal vegetation such as pingao and endemic herbs which has allowed marram grass to dominate and thereby reduce the natural habitat of the endangered Chatham Island oystercatcher.

Many of the smaller off-shore islands still contain original coastal vegetation and ecosystems and are of major conservation significance because of their largely unspoilt environment. These islands have traditionally had little Council involvement with Iwi families and the Crown as owners controlling the resources. The Department of Conservation, for example, manages Rangitira and Mangere Islands as Nature Reserves with public access restricted.

Much of the coastal environment is of importance to Iwi with a number of spiritual sites located in proximity to the coast.

Generally, the existing coastal water quality is very high. There is some evidence of adverse effects arising from activities such as diesel fuel discharges, boat maintenance, stormwater discharges, and fish factory discharges of wash water and screened solid waste to coastal waters in the immediate harbour areas. Other sources include non-point discharges such as effluent disposal and farm runoff. There is however no evidence of serious contamination of coastal water quality due to the limited discharges of these contaminants and flushing from the strong wave and currents which tend to disperse the contaminants. The maintenance of high water quality is vital to local intertidal ecosystems and fish resources.

Mooring space is generally regarded to be adequate on the Chatham Islands except at Owenga harbour which has limited space and is exposed to the north east swell and wave action.

Natural hazards are an issue along some areas of the coast where natural processes have affected human property and other aspects of the environment.

Much of the land adjacent to the Coastal Marine Area is in private ownership which can result in restricted public access to the coast. Occupation of the Coastal Marine Area by a person/persons in respect of structures and reclamations to the exclusion of others can also restrict public access to and along this area.

As indicated above, in the use, development and subdivision of the coastal environment the Act requires consideration to be given to the natural character of the coast. The Act does not define "natural character" but the NZCPS suggests some important elements which contribute to the natural character and include :

- (a) The level of existing modification (presence of man made structures, removal of indigenous vegetation etc)
- (b) Significant indigenous species of flora and fauna
- (c) The life-supporting capacity of ecosystems
- (d) Significant indigenous species of flora and fauna
- (e) Landscapes, seascapes and landforms
- (f) Coastal processes
- (g) Special spiritual values and significant historical and cultural places
- (h) Water quality

In the Chathams, the natural character of the coastal environment comprises all of the above elements which are present to a greater degree in some areas than others. For example, the natural character in the vicinity of the townships has lost much of its natural character with the obvious influence of man made structures and activities. On the other hand the southern cliffs of Chatham Island are unmodified, are a significant seascape and contain significant indigenous fauna.

The critical matter is the impact (if any) that use, development and subdivision will have on that natural character of the coast.

3.5.2 The Issues

- (i) Potential adverse effects from activities which could detrimentally affect the existing high quality of the coastal water.
- (ii) Subdivision, use and development including structures in the coastal environment can:
 - compromise the natural character of the coast line such as the erection of structures on land and in the water
 - interfere with natural sediment processes such as at Petre Bay, Kaingaroa and Flower Pot
 - increase the risk of natural hazards
 - adversely affect indigenous vegetation and habitats such as the grazing of dunes
 - restrict public access including exclusive occupation of space in the Coastal Marine Area such as the wharves at Kaingaroa and Port Hutt
 - create an adverse visual impact
 - impact on sites of significance to Iwi such as sites of waahi tapu and kai moana
 - affect safety and navigation of boats in the boat harbours of the Chathams

See also Part 3.2 - 3.12.

3.6 Natural Features

3.6.1 Background

The Chatham Islands' geology, isolation, topography, climate and soils has given rise to unique natural environments. Typically the natural environments are represented by landforms such as cliffs and volcanic cones and rivers, wetlands and indigenous vegetation and habitats. Many of the animal and plant species are endemic to the Chathams.

Prior to human habitation the Chatham's vegetation and associated ecosystems was highly distinctive. Following the arrival of humans, there was a significant transformation of the landscape. Expanses of kopi and broadleaf forest were cleared for cultivated plots and pastoral farming led to increasingly widespread forest clearance and drainage of wetlands although much of the land has since reverted to bracken and umbrella ferns.

Forest cover is now rare in northern and central Chatham Islands and the north of Pitt Island. Some of the remaining areas, particularly many small forest remnants are under pressure from the effects of stock and wind. Wetlands are affected by grazing, occasional burning and activities such as sphagnum moss harvesting. Pests such as possums continue to cause damage while indigenous species, such as akeake have been used for firewood purposes. As a consequence, habitats of much of the indigenous fauna have been severely affected by reduction in area and fragmentation and are also vulnerable to predators such as cats and rats.

However, while fencing protects indigenous vegetation from stock grazing and subsequent exposure to the elements, the high costs associated with fencing makes this prohibitive without some assistance for farmers. Similarly, there is limited funding for pest control, ecological monitoring and other conservation activities.

Areas such as those managed by the Department of Conservation and covenanted areas do however contain a number of threatened species. The islands have one of the highest

number of covenants in New Zealand for its size through Forest Heritage and Ngawhenua Rahui funds. Thirty of forty five rural landowners having entered into conservation commitments. Covenanted areas, many on private title are managed by or with the support of the landowner. In addition, there are areas which owners have fenced off for protection but are not under any formal covenant. Many of the smaller offshore islands and isolated areas of the main islands also contain areas of significance but are not formally protected. However, they are not under any major threat at present.

Landscapes have been modified, primarily by the removal of vegetation rather than removal or displacement of material or intensive development in the form of structures. The disturbance of these features by activities such as peat mining and residential housing is not considered great at present, given the lack of development pressures.

The Act focuses on the natural environment by requiring the safeguarding of the life capacity of ecosystems and the provision and protection of features set out in Sections 6 and 7 of the Act.

Retention of natural resources has benefits for the community in terms of the character of the islands, amenity values, visual appreciation, conservation and as an attraction for visitors.

3.6.2 Issues

- (i) Some of the areas of indigenous vegetation and habitats of fauna are fragile and susceptible to damage from:
 - stock grazing and wind
 - fragmentation
 - pests and predators
 - burning
- (ii) Some natural features and landscapes can potentially be adversely effected by development pressures.

See also Part 3.2 - 3.5, 3.8 and 3.9.

3.7 Heritage Items

3.7.1 Background

Heritage items include archaeological sites, historic buildings and places and waahi tapu. These items form part of the historic and cultural heritage of the Chatham Islands and under Section 7(e) of the Act particular regard is to be had to their recognition and protection.

Examples of heritage items include tree and rock carvings of the Moriori; occupation sites such as middens, quarries, and burials and other waahi tapu. European examples include houses, churches, farm buildings and shipwrecks. Many of the Iwi sites are concentrated on the coast, including many urupa in the sand dunes.

The Historic Places Act 1993 requires the Historic Places Trust to establish and maintain a register of historic places, historic areas, waahi tapu and waahi tapu areas. The Trust has registered eleven historic buildings on Chatham Island and Pitt Island. While these buildings are registered under the Act, this does not of itself prevent demolition or damage.

Other than the buildings there are no other items on the Trust Register. The New Zealand Archaeological Association (NZAA) Site Recording Scheme has recorded over 700 archaeological sites on the Chathams. These sites and sites that meet the definition of an archaeological site under the Historic Places Act 1993 are covered by that Act, in that authority is required from the New Zealand Historic Places Trust to modify, disturb or destroy a site. There are also a number of other sites which are not recorded under the NZAA Scheme. The location of these sites is only known to the Iwi who maintain a silent file and who do not wish to make the sites public. Although these sites are unrecorded, they are also covered by the provisions of the Historic Places Act 1993.

Sites of historic significance have been lost or destroyed in the past on the Chathams by development or landuse and such activities as fossicking. For example removal of vegetation has lead to the exposure and subsequent loss of the dendroglyphs. Retention of such items assists to preserve the identity of the islands for future generations and are of interest to visitors.

3.7.2 Issues

- (i) Inappropriate use and development of heritage items can lead to a loss of these items for future generations.
- (ii) Places and sites of value to the Iwi but not publicly identified are susceptible to damage from use and development.

See also Part 3.2, 3.3 and 3.5.

3.8 Public Access To and Along the Coastal Marine Area, Lakes and Rivers

3.8.1 Background

Public access is both a legal and physical issue. Section 6(d) of the Act and the NZCPS both emphasise public access as an issue of national importance.

On the Chathams legal access to the Coastal Marine Area, lakes and rivers take the form of marginal strips, roads and reserves (this refers only to Chatham Island and Pitt Island). Generally legal access is considerably less than in New Zealand which probably reflects the lack of original Crown purchase and the opportunities to implement the "Queens Chain". In the Chathams, the major demand for public access is to the coastline, particularly in the centre and north of Chatham Island, and Te Whanga.

Much of the land adjacent to the coastal marine area, lakes and rivers is therefore in private ownership. This restricts legal access for people including fishers and visitors to many parts of the coastline and waterbodies. Occupation of the coastal marine area by structures can also inhibit public access such as has occurred with the jetties at Kaingaroa and Port Hutt.

However, access over private land is generally permitted, provided the landowner has been informed and consent given. While there does not appear to be any significant problem for local people with this system at present, difficulties could arise in the future if land ownership changes and there is more intensive subdivision or visitor numbers increase. On the other hand restricting access assists in protection of wildlife habitats and fisheries and cultural sites, a matter which is recognised in the NZCPS.

While legal access is available in a number of locations, the difficulty often lies in physical access which is either substandard or non-existent, particularly for vehicles. With this being the case, it is a matter of expenditure of funds to create the physical access.

Many landowners on the Chathams indicate that they value their private property riparian rights and do not wish to give them up which in turn can inhibit potential subdivision. There is also concern that public access could affect landowner amenities such as security, rubbish disposal, privacy, and dog and firearm control.

3.8.2 Issues

- (i) Public access, both legal and physical, can in some instances be restricted by land ownership, exclusive occupation, use and physical works.
- (ii) Provision of public access can conflict with the need to protect wildlife habitats, cultural and fisheries values, and landowner amenities.
- (iii) Potential subdivision is being inhibited by the assumption that there will be a loss of riparian rights by subdividing owners.

See also Part 3.2 - 3.5.

3.9 Risk from Natural Hazards

3.9.1 Background

The Act defines a “natural hazard” as :

“any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire or flooding) the action of which adversely affects or may affect human life, property or other aspects of the environment”.

Hazards are analysed in terms of probability of occurrence and the level of effects. Some hazards have a low probability but a high impact, such as volcanic and earthquake activity. Others have a high probability and high impact such as gale force winds and storm surges. The focus in this document is on the more frequently occurring high probability hazards.

Some natural hazards have a high probability to place persons and property at risk and consequences need to be considered. The Act and the NZCPS require local authorities to consider natural hazards where they exist. Council therefore has the function of controlling natural hazards in respect of human life, property and also other aspects of the environment on the islands.

A number of natural hazards are identified as having the potential to occur on the islands. These include:

(i) Tsunamis

Tsunamis are sea-surface waves which are generated by submarine earthquakes and volcanic activity, primarily off the South American coastline. Three tsunamis have occurred in the last 200 years causing damage to wharf structures, buildings and fishing boats.

(ii) Storms and Storm surges

High wind speeds and large waves are generated in cyclonic storms off the coast of the islands which can result in significant short term effects. Inshore sea level rise due to low atmospheric pressures, wave buildup and coincidence with spring tides, can result in substantial damage to coastal structures.

(iii) Sea Level Rise

According to the International Panel on Climatic Change (IPCC, 1995), the latest global sea level rise prediction is estimated to be in the order of 40 - 60 cm by the year 2050. While this time frame is outside the life of the plan, buildings and structures are expected to have at least a 50 to 100 year existence and thus this long term hazard needs to be considered.

(iv) Coastal Erosion

Coastal erosion is a natural process, particularly in respect of those coasts with a south west orientation which are subject to intense wind and wave actions. In certain areas, human related activities have resulted in these processes being altered or magnified. Uncontrolled stock grazing resulting in loss of native vegetation has led to significant dune blowouts along Petre Bay and along parts of the northern shore of Chatham Island resulting in potential hazards for coastal assets. On the western side of the Kaingaroa headland, erosion of oversteepened dune ridges has resulted in significant hazards for local houses on the ridge crest. Changes in sediment patterns in Kaingaroa Harbour has also threatened foundations of the fish factory and club.

(v) Flooding

The most frequent source of flooding is that of Te Whanga. The natural cycle of rising and falling of water levels in the lagoon results at times in the flooding of the North Road. A combination of spring tide, storm surges and sea-level rise could in the future lead to potential flooding of structures and services in the vicinity of the Nairn River mouth.

(vi) Fires

The extensive areas of peat form the main fire risk hazards. Once alight, peat fires can spread underground and be extremely difficult to extinguish.

(vii) Earthquakes

The islands are not particularly susceptible to earthquakes and share the same risk as many other parts of New Zealand.

3.9.2 Issues

- (i) The risk to human life and property and natural features in some areas of the islands from natural hazards.

See also Part 3.5.

3.10 Hazardous Substances

3.10.1 Overview

Hazardous substances typically include explosives, gases, flammable solids and substances, and oxidising, toxic, radioactive, corrosive and infectious substances. They can include substances used in industrial plants as well as domestic products, including household cleaners, paint and batteries.

Hazardous substances are not used on the Chatham Islands in any large quantities. The adverse effects resulting from their use are at present minimal although potential problems could be significant. Hazardous substances that are regularly used include; paints, solvents and other cleaning substances, batteries, diesel, CNG, chlorine, oils, aviation fuel, anti-foulants and agricultural pesticides.

The major danger posed by the use of a hazardous substance is the potential for an oil/diesel spill in the Coastal Marine Area and the consequent adverse effects on the fisheries, bird life, beaches etc. An approved Oil Spill Contingency Plan is in place. Other issues include the appropriate disposal of hazardous substances and the implementation of good practices.

3.10.2 Issues

- (i) Hazardous substances can have significant and long term effects on human life and water, soil and wildlife if they are not adequately stored, used, disposed, or transported.

See also Part 3.3 - 3.6.

3.11 Air Quality

3.11.1 Background

The air quality of the Chathams is generally of very high standard due to windy maritime conditions which disperse the discharges of contaminants from the few sources.

In some localised situations, there is some degraded air quality such as odour from the disposal of fish offal, landfills, and the sewerage system at Waitangi. Other discharges include suspended and deposited particulate emissions from the boat maintenance activities, vehicle movement on roads, landfills and from home and peat fires. Small amounts of sulphur dioxide are likely to come from home fires, diesel generators and some vehicles. Generally there is no present significant adverse effects from discharges of contaminants to air on the island. However potential adverse effects could arise from a major industrial operation or process particularly if it is in proximity to a sensitive land use such as a residential area.

3.11.2 Issues

- (i) The existing air quality of the Chathams could be adversely affected by a localised nuisance or a major industry or process, particularly in proximity to sensitive land uses.

See also Part 3.5 and 3.12 - 3.13.

3.12 Amenity Values

3.12.1 Background

Amenity values are those natural or physical qualities and characteristics which contribute to people's appreciation or enjoyment of the local environment. Components of amenity may include privacy, sunlight admission, openness, public health, absence of nuisance elements, the working environment, and recreational, aesthetic, and coherence attributes. Elements of amenity values has already been referred to in Part 3.2 in terms of lifestyle. Amenities differ between environments. For example, in the townships, closer settlement leads to different

expectations as opposed to the rural area, in which openness and quietness are valued attributes.

3.12.2 Issues

- (i) Loss of use and enjoyment of individual properties as a consequence of adverse effects of neighbouring activities.
- (ii) Loss of environmental pleasantness and coherency of an area as a result of effects of activities, such as noise, visual impact and traffic which are inappropriate in terms of existing amenity.

See also Part 3.2 - 3.11.

3.13 Utilities and Services

3.13.1 Background

Utilities and servicing provide the infrastructure which enables a community to undertake its everyday activities and functions and allows people to provide for their social and economic well being, health and safety. Utilities and services on the Chathams include:

- the roading network including support facilities such as signage and quarries
- the airport and airstrips
- port and jetty facilities
- waste disposal sites
- pipes for sewerage, water etc
- power lines and structures, telecommunication facilities, radiocommunication and telecommunication lines
- navigational aids
- electricity generating station
- meteorological activities

The main providers of utilities on the Chatham Islands are the Council, the Crown, the Chatham Islands Trust and organisations such as Telecom.

Roading networks on the Chatham Island and to a lesser extent on Pitt Island provide vital transport links. A network maintenance strategy operated by Council is designed to protect the roading asset, in which all roads are graded depending on their use. Adverse effects associated with the roading resource includes the effects of activities carried out on roads and the effects of activities on the safe and efficient functioning of the network.

Similarly the airport and airstrip and the port facilities at Waitangi, Port Hutt, Kaingaroa, Owenga and Pitt Island are vital facilities providing economic and social links to New Zealand.

There are three Council operated landfills on the islands at Te One, Owenga and Kaingaroa. Council has determined that the three sites in the above general localities are the best options for refuse disposal at present having regard to providing a reasonable service and costs. While serving an important function on the islands their adverse effects include visual appearance, discharge of leachate and odour. The landfill at Kaingaroa in particular is located in a sensitive coastal environment. However their isolated nature and intermittent use, indicates that the above effects do not appear significant, although clearly management

practices and future options for disposing of waste should seek to avoid, remedy or mitigate such effects. The existing landfills have limited lives and there is some difficulty in obtaining alternative sites. There is some disposal of waste on private land such as sludge from septic tanks and fish factory waste.

Other utilities such as connections for water, drainage and sewerage, power and telecommunication lines and structures and navigational aids promote the health and safety and well-being of the community.

Development can result in a necessity to create or upgrade infrastructure (eg roads, reticulation systems) and other facilities such as reserves. The Act empowers Council to recover a financial contribution to offset the adverse effect created by that development.

3.13.2 Issues

- (i) The adverse effects the location and operation of infrastructure and services can have on the environment.
- (ii) Effects of activities adversely impacting on the safe and efficient operation of infrastructure.
- (iii) The requirement generated by new development to expand or upgrade existing infrastructure and services.

See also Part 3.2, 3.5, 3.10,3.11 and 3.12.