17 Solid Waste Management

17.1 Solid Waste: Main Points

Pressures

- There are now four waste disposal sites operating in the Northland region. This compares to 39 disposal sites in 1992.
- It is difficult to provide an accurate amount of the total volumes of solid waste produced in the region. However, the volumes of wastes produced in the region appear to be increasing. A substantial percentage of the regions refuse is now transported and disposed of outside the region.
- The incidence of illegal dumping has declined over recent years. This is most likely to be attributable to a number of factors. These include more facilities available for waste disposal (transfer stations), enforcement action and the education of the public through school visits and media releases.

State

- For the foreseeable future it is likely that landfilling will continue to be the preferred option for refuse disposal in the region.
- There are only a limited number of sites suitable for landfilling in the region, and consequently landfill space is becoming scarce as old sites are progressively closed.

Response

- Operating and closed landfills are regularly monitored for compliance with consent conditions.
- The promotion of waste minimisation schemes.
- The completion of waste audits and cleaner production guidelines for a number of targeted industries.

17.2 Introduction to Solid Waste Management in Northland

Solid waste can be classed as any refuse or waste material, including semi-solid sludges, produced from domestic, commercial, or industrial premises or processes.

Since the implementation of the Resource Management Act in 1991, a number of changes have occurred in landfill management in Northland.

Many of the small rural tips, which were poorly sited in close proximity to harbours and tidal estuaries, have now been closed, covered and sealed. These closed tip sites have been replaced with more appropriately sited modern transfer stations.

The disposal of refuse is now undertaken at larger, more centralised landfills. At a number of landfills the overall management of the site has been improved by excluding the general public from the landfill face.

17.3 Regional Policy Statement Objectives

The objectives of the Regional Policy Statement for Northland are:

- **To reduce the amount of waste produced and associated disposal needs.**

- **To ensure that efficient and environmentally sound collection systems are available for the treatment and disposal of wastes.**

17.4 Solid Waste Management Issues

The Northland region, like others throughout the country, is producing an increasing amount and variety of waste. The management of this waste has potential for considerable environmental effects. A three-way approach is required to deal with this problem, including the reduction of wastes at source, associated programmes of reuse and recycling, along with improved methods of collecting, treating and disposing of the residual volume.

Key issues in Northland include:

- The quantities of waste being disposed of and limited waste minimisation and recycling.

- The poor standard of a number of the region's waste treatment and disposal facilities.

- Indiscriminate dumping of refuse, particularly along the coast and into waterways.

- The extra waste, refuse and sewage generated by the large number of summer visitors to the region.

17.5 Pressures from Solid Waste

17.5.1 Waste Disposal Facilities

Prior to 1992 there were 39 waste disposal sites in Northland, most of which were small rural tips sited adjacent to tidal estuaries and streams. The sites were usually unstaffed and so consequently there were no controls placed on what was disposed of at the sites.

Old rural tip now closed

With the passing of the Resource Management Act in 1991, the need for resource consents and much stricter environmental controls meant most of these small sites were closed. There are currently four waste disposal sites operating in the Northland Region at Ahipara and Russell in the Far North District, Hakaru (near Mangawhai), in the Kaipara District, and Pohe Island in the Whangarei District. Since 1992 more than 30 landfill sites have closed (Map 25).

Within the Far North District, the recent closure of the Kaikohe (1999) and Whangae (2000) landfills has increased pressure on the Ahipara site. Currently this site is accepting domestic and industrial solid wastes from the entire district except for the southern Bay of Islands.

The Kaipara Districts landfill site at Hakaru accepts refuse from the Mangawhai, Kaiwaka, and Maungaturoto areas. The balance of the refuse collected from the Dargaville area is transported to Redvale landfill in Auckland.

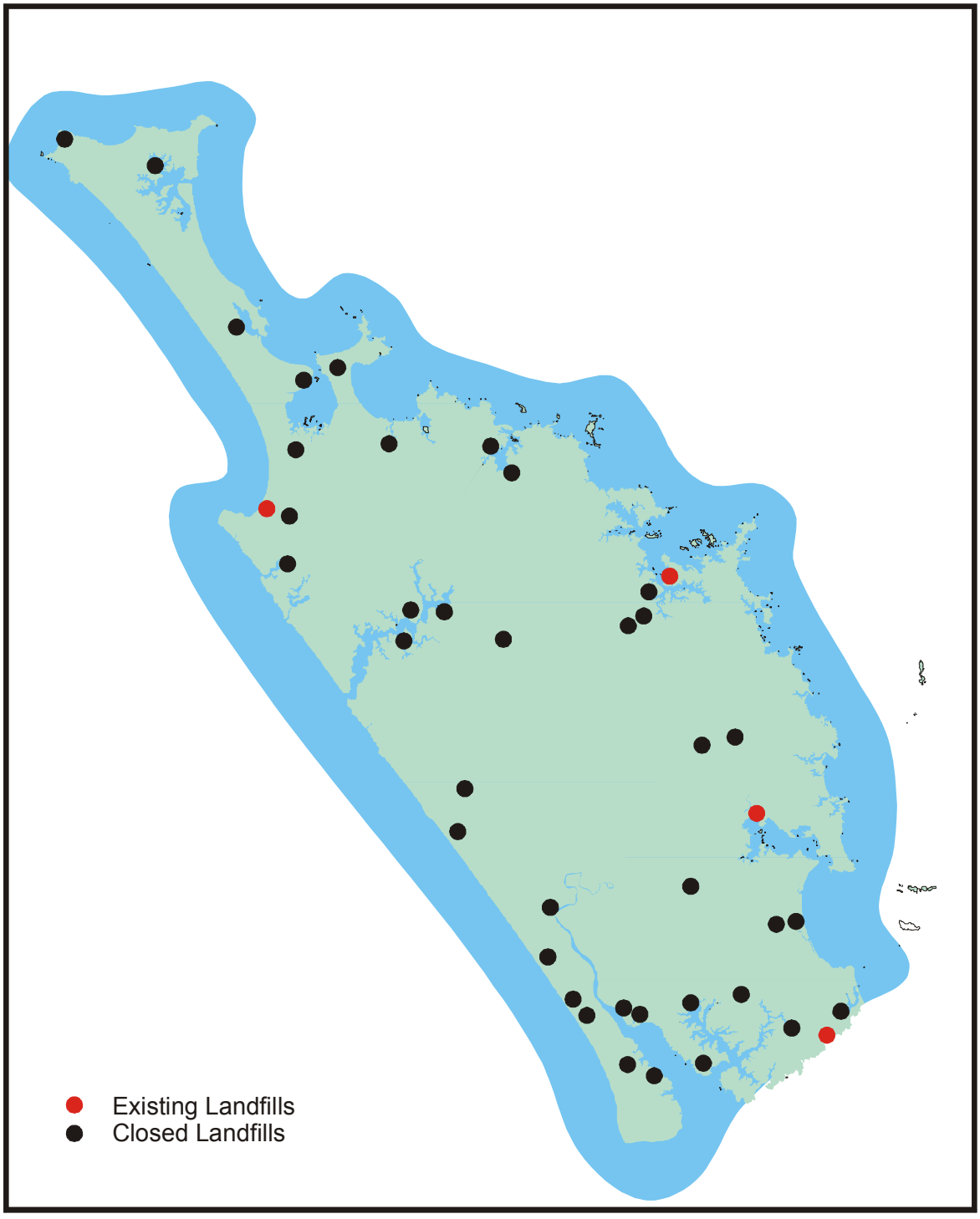
The Whangarei District Council's landfill at Pohe Island services the entire district from Whakapara in the north of the district to Waipu in the south.

There are in addition an unknown number of small farm disposal sites scattered throughout the region.

The Far North and Whangarei District Councils are in the

Modern Transfer Station

planning stages of acquiring **new landfill** sites. The Far North District is investigating a new site for the northern part of the district. The Whangarei District has applied to the Northland Regional Council for consents to operate a new landfill site at Purewa, which is 10km south of Whangarei.



EXISTING AND CLOSED LANDFILLS

Map 25: Existing and closed landfills in Northland

17.5.2 Quantity of Solid Waste Produced

It is difficult to provide an accurate amount of the total volumes of solid waste produced in the region due to the following:

- The waste surveys that have been undertaken at northern landfills have been limited in their scope compared to national surveys.
- A percentage of the waste generated in the region is disposed of outside the region.
- Not all of the waste generated is placed in landfills.
- The measurements of the amount of wastes produced have not always been consistent. Some District Councils use volumes of waste produced while others use weight.

In 1995 it was estimated that 160,000 cubic metres of solid wastes were produced in Northland. At that time the volume of solid waste was expected to reach 190,000 tonnes by the year 2006 (Regional Policy Statement, Northland Regional Council).

The best estimate figures provided by the Whangarei District Council show that in the 1999/2000 year 43,842 tonnes of wastes entered the Pohe Island landfill, which is a slight increase on the previous year.

The opportunities for recycling in the Northland Region are still limited, due in part to the distances from the market. In recent years however extra recycling facilities have been provided notably in the Whangarei and Far North Districts.

17.5.3 Solid Waste Incidents

Between November 1993 and April 2001 there have been 320 recorded incidents of illegal dumping of refuse including demolition material.

The incidence of illegal dumping in Northland has declined over recent years, which is most likely attributable to a number of factors. These include more facilities available for waste disposal (transfer stations), and increased public awareness through education and enforcement action.

Illegal dumping of car bodies and waste

17.6 State of Solid Waste

For the foreseeable future it is likely that the landfilling of refuse will continue to be the preferred means of waste disposal in the region. There have been a number of alternative refuse disposal schemes suggested for the region including a waste to energy proposal (incineration).

The effects that a landfill can have on the environment are not easy to detect. Leachate is produced when water filters downward through a landfill, picking up dissolved materials from the decomposing wastes. Depending on characteristics of the landfill and the wastes it contains, the leachate may be relatively harmless or extremely toxic. Generally leachate has a high biochemical oxygen demand (BOD) and high concentrations of organic carbon, nitrogen, chloride, iron, manganese and phenols. Many other chemicals may be present, including pesticides, solvents and heavy metals.

Modern, sanitary landfills are constructed to prevent leachate contamination of groundwater or surface waters. The bottom of the landfill is lined with impermeable layers, and the leachate is collected and treated before being released to the environment.

Older landfills were constructed without liners, and have high potential for contamination of both surface and groundwater. Comprehensive monitoring programmes are needed so that many of these risks can be identified and action taken to prevent any off-site effects.

In general the analysis of water samples collected show that both closed and open landfills in Northland are having little effect on downstream water quality. Landfills sampled over the last two years were all within the specified consent limits and showed little contamination.

17.7 Response to Solid Waste Issues

17.7.1 Northland Regional Council

Since 1992 more than 30 substandard landfill sites have been closed. All operating and some closed landfills must have **resource consents** for discharges to the environment.

Rehabilitated landfill site at Kaiwaka

Requirements for sealing and site rehabilitation are also monitored.

All operational landfills are **monitored** on a six-monthly basis. Surface water and sediment samples are collected from locations adjacent to the landfills. At some sites groundwater is also collected. The samples collected are analysed for a wide range of water quality indicators and potential contaminants including heavy metals. In addition an organic scan of the leachate is undertaken on an annual basis to screen for the possible presence of pesticide residues and other contaminants.

All closed landfills are monitored on average every two years. At some of these sites water samples are also collected and analysed for a range of water quality indicators and heavy metals.

During 1994/95 Northland Regional Council developed a series of **cleaner production** booklets aimed at targeted industries. These booklets focused on the following industries:

- Manufacturing jeweller
- Commercial printer
- Panel-beating industry
- Automotive service stations
- Commercial photographic laboratories
- Commercial spray painters
- CCA – timber treatment industry
- Dairy farm shed management

Cleaner production aims to reduce costs by establishing efficient operations that minimise raw materials and recycle and reduce wastes. This reduces direct costs on materials and waste disposal charges.

17.7.2 Other Responses

The New Zealand Waste Strategy was released on 2 March 2002. The Strategy covers solid, liquid and gaseous waste and recognises that moving towards zero waste and a sustainable New Zealand is along term challenge. It has three core goals:

- Lowering the social costs and risks of waste.
- Reducing the damage to the environment from waste generation and disposal.
- Increasing economic benefit by more efficient use of materials.

More information can be found at http://www.mfe.govt.nz/wasteline/