

# **WASTE HAZARDOUS SUBSTANCES AND CONTAMINATED SITES**

## **Waste Hazardous Substances**

### **Highlights 2001-2002**

- During 2000-2001 9.0 tonnes of waste hazardous substances were collected from throughout the Northland Region.
- 840 kg of intractable material was collected during 2000-2001.
- Since 1993 over 30 tonnes of waste hazardous substances have been collected, recycled, disposed of or placed into long-term storage.
- All or part of the Councils stockpile of intractable wastes will be disposed of overseas during the 2002-2003 financial year.

### **Annual Plan Performance Targets**

To facilitate the collection, transport, re-use, storage, treatment and disposal of redundant agrichemicals and other small quantities of waste hazardous substances, where there is no appropriate alternative service provided, by:

- **Operating in conjunction with Wrightson, waste hazardous substances stores at Whangarei, Dargaville, Kaitaia and Waipapa.**
- **Operating a facility in Whangarei, for the short- term storage of wastes awaiting transport.**
- **Providing a collection, transport and disposal service for other small quantities of waste hazardous substances.**

## **Introduction**

This section discusses the management of and the quantities of, waste hazardous substances received at the Northland Regional Council stores over the 2001/2002 financial year.

The safe disposal of redundant or unused agricultural chemicals and other waste hazardous substances is an issue for rural and urban communities throughout New Zealand. The issue is complicated by the limited options available for those seeking to dispose of such wastes. At the time of writing there are only two commercial hazardous waste disposal facilities available in the North Island. These facilities are situated in Auckland and Wellington. Some landfills offer co-disposal for low key hazardous wastes but this disposal option is not available in the Northland Region.

Some of the more hazardous agricultural chemicals held by farmers and horticulturists cannot be legally disposed of in New Zealand. Most of these chemicals are either unidentified or are organochlorines such as DDT, Lindane or Dieldrin.

All of these chemicals require special disposal technologies such as high temperature incineration.



**Hazardous waste store at Pohe Island**

## **Waste Hazardous Substances Collection Depots**

At present the Northland Regional Council in conjunction with Wrightson operates four collection depots, which are situated at Kaitaia, Waipapa, Dargaville and Whangarei. The Councils own purpose designed store has now been relocated to Pohe Island landfill in Whangarei. Regional Council staff also manage the Whangarei District Councils waste stores on behalf of the Council.

Waste hazardous substances that have been collected are repacked, labelled and temporarily stored before despatch to Auckland for long-term storage or disposal. Council staff also visit individual properties to recover chemicals that are leaking, in a deteriorating condition or the contents require repackaging before transport.

Council staff also receive calls for assistance from other private organisations for chemical disposal. These include the collection of laboratory wastes from schools and industrial wastes including solvents and timber treatment sludges.

### **Operation of Depots**

At the Wrightson stores staff employed by that company accept all chemical wastes received. All wastes are documented and then placed in the waste hazardous substances store. The wastes then become the responsibility of the Northland Regional Council. On a regular basis Council staff collect the wastes from Wrightson, which are then transported to the Pohe Island complex for repacking.

At all of the Wrightson stores spill and safety equipment is available on-site in the event of an accidental spill of chemicals or some other form of emergency. Council staff regularly update emergency procedures and restock equipment as required.

## **Quantities and Types of Chemicals Collected**

During the 2001/02 financial year approximately 9 tonnes of waste hazardous substances were collected for long-term storage, redistribution or pre-treatment. This compares with the 1999/2000 financial year

when approximately 6 tonnes of wastes in total were collected. Included in the wastes collected were the following:

### **Insecticides and Fungicides**

Approximately 1 tonne of insecticides and fungicides were collected from throughout the region with the majority of them coming from the Kerikeri area. Approximately 15% of the total volume collected was sent back to the manufacturer. The balance was in a severely deteriorating condition, the labels illegible, and in some instances required repackaging. The majority of the insecticides and fungicides collected were sent to Auckland for disposal or long-term storage.

### **Pest Control Wastes**

Approximately 2 tonnes of pest control baits were handed in or collected from various government agencies or private individuals. The majority of these wastes were either outside their expiry date or were weather damaged. All of these wastes were destroyed.

### **Agrichemicals**

Approximately 3 tonnes of agrichemicals were collected from throughout the region. The vast majority of these were herbicides (2.0 tonnes) which are still readily available on the market and legal to use. They were distributed to Landcare groups predominately in the Far North District.

The balance of the remaining one tonne of agrichemical collected was either in a deteriorating condition, deregistered or banned. A small amount of out of date veterinary care products is also included in this amount.

### **Laboratory Chemicals**

During the past year close to 500 Kilograms of laboratory chemicals were also collected from a number of schools and private laboratories. Of the laboratory chemicals collected 10% were recycled, 85% were destroyed with the remaining 5% placed into long-term storage.

## **Long Term Storage Intractable Wastes**

### **Storage of Waste Hazardous Substances**

At present the Northland Regional Council stores approximately 11 tonnes of waste hazardous substances. These include a wide range of intractable organochlorine based chemicals. There are currently no disposal options available within New Zealand for these wastes.

These waste hazardous substances are packed in UN approved containers and are held in licensed premises in Auckland. The integrity of the containers and their contents are regularly audited by Council staff.

The following wastes are currently held in long term storage:

- 100 kilograms of the deregistered herbicide 245t
- 500 kilograms of persistent organic pollutants including DDT, Lindane etc.
- 150 kilograms of 24 D dust
- 25 kilograms of Pentachlorophenol
- 10 kilograms of Chloropicrin
- 5 kilograms of mercury
- 50 kilograms of the deregistered herbicide 245t

## **Disposal Options**

Currently there are no facilities available in New Zealand available for the disposal of these types of wastes. Given the relatively small volumes of waste hazardous substances in this country requiring disposal it appears highly unlikely that any New Zealand based technology will become available in the short or long-term.

There are however a number of government approved and licensed hazardous waste disposal facilities based off shore. These include high temperature incineration units based in Europe. The ratification of the Basel Convention by the New Zealand Government now allows the international movement of hazardous wastes from one country to another for destruction.

A French based company, which has a branch in Auckland presently, holds licences for the export and destruction of hazardous wastes.

## **Destruction of Wastes**

The Councils stockpile of wastes held in Auckland has continued to grow. The costs of storing the wastes also continues to escalate. During the 2002-03 financial year the Council intends to export (depending on costs) all or part of the stockpile of intractable wastes to Europe for destruction.

## Contaminated Site Management

### Highlights 2001-2002

- During 2001-2002 approximately 200 sites listed on the Selected Landuse Register were visited and inspected.
- Site assessments were undertaken at a number of animal dip and timber treatment sites.
- The underground storage tank removal and replacement programme continued.
- Work continued with the National Working Group on having a consistent approach to the management of contaminated sites in New Zealand.

### Annual Plan Performance Targets

To facilitate the management of contaminated sites in Northland, by:

- **Maintaining and updating a Selected Landuse Register of sites, site assessments and site remediation.**
- **Promoting the assessment and remediation of significantly contaminated sites.**
- **Continue to develop a contaminated sites management strategy in conjunction with the three District Councils.**

## Introduction

This section discusses the management of contaminated sites in Northland over the 2001/2002 financial year.

The Australian and New Zealand Environment Conservation Council (ANZECC) defines a contaminated site as;

**“ A site at which hazardous substances occur at concentrations above background levels and where assessment indicates it poses, or is likely to pose and immediate or long-term hazard to human health or the environment”**

The management of contaminated sites is closely linked to the management of hazardous substances and hazardous wastes.

### Work Programme 2001/2002 Financial Year

Over the past year approximately 200 of the sites listed on the Selected Landuse Register were visited and inspected. By visiting the sites that are listed on the register the information that is specified can be authenticated and updated. This leaves approximately 400 still to be visited.

### National Working Group

A national working group consisting of representatives from all Regional Councils and the Ministry for the Environment has been meeting with the aim of having a consistent approach to the collection of information, entry of data onto databases, and the categorisation of contaminated sites.

Much of the work required for the finalisation of the various guidelines and documents is now nearly complete, with a final decision to be made on the outstanding issues in November 2002.

### **Site Contamination at Car Valets and Car Washes**

During the past year an investigation into site contamination at car wash and car valet sites in Whangarei City was undertaken. The investigation highlighted the lack of suitable facilities on site with in many cases a direct discharge of contaminants to land or the stormwater.

Following the site inspections a letter was sent to the manager owner of the premises pointing out that it was no longer acceptable to discharge contaminants to land or to stormwater. The letter also listed the Regional and District requirements to comply with the Resource Management Act 1991 and the Trade Waste By Laws.

The majority of the sites visited now comply with the appropriate legislation.

### **Underground Storage Tank Removal**

Over the year the four oil companies continued their programme of fuel tank removal and replacement in the region. This programme is ongoing as fuel tanks come towards the end of their useful life.

### **Animal Dip Sites**

A preliminary site assessment was undertaken at three animal dip sites in the region. At one of these sites a further site investigation was undertaken followed by site remediation works. The site can now be tagged on the Councils Landuse Register as remediated.

## **Solid Waste Management**

Since the passing of the Resource Management Act in 1991 a number of changes have occurred in solid Waste 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. At many of the former tip sites waste transfer stations have been constructed which are more appropriately sited, better managed and which have a minimal impact on the environment.

The disposal of refuse is now undertaken at larger more centralised landfills. At a number of these landfills the overall management of the site has been improved by excluding the general public from the landfill face. This practice allows the landfill operator more time to achieve appropriate compaction levels and to cover the incoming refuse as required.

### **Landfill Sites**

There are currently four operational landfill sites in the northland Region as compared with six two years ago.

#### **Far North District**

Ahipara

Russell

#### **Whangarei District**

Pohe Island

## **Kaipara District**

Hakaru

### ***Landfill Monitoring***

#### **Operational Landfills**

Operational landfills are either monitored on a quarterly or six monthly basis. Surface water, groundwater and sediment samples are collected from locations adjacent to the landfills. The samples collected are analysed for a wide range of water quality indicators and potential contaminants including heavy metals. In addition on an annual basis an organic scan is carried out of the leachate to screen for the possible presence of pesticide residues and other contaminants.

#### **Closed landfills**

All closed landfills are visually inspected on an annual basis. At some sites samples are collected and analysed for a range of water quality indicators and heavy metals.

#### **Effect on Receiving Water Quality**

The analysis of water samples collected show that landfills in Northland are having little effect on downstream receiving water quality. The landfills monitored and sampled over the past financial year were all within the specified consent limits and showed only very minor contamination.