

Hazardous wastes

Addressing the issue in Taranaki

This booklet is about a Taranaki environmental success story.

It is about how Taranaki's regional and local government, with the assistance of the Ministry for the Environment, agriculture and industry, and with the participation and response of the region's community, have rid the region of problems relating to a legacy of hazardous wastes.

Over the space of little more than a decade, Taranaki has worked hard to dispose of these wastes from farms and urban households – since 1991 the Taranaki Regional Council has collected and disposed of more than 40 tonnes of redundant, unknown or hazardous substances.

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The Taranaki Regional Council and its predecessors have always had the statutory responsibility to control discharges of contaminants, including hazardous wastes, to the environment.

Taranaki has also put in place

a management structure designed to provide for the disposal of hazardous wastes in the region, and to ensure that any future hazardous waste issues can be quickly and efficiently managed.

The region has also achieved major progress in identifying and remedying sites that may have been contaminated by past activities such as the operation of landfills, timber treatment yards, rail yards, or the storage of agricultural chemicals.

The end result of all this activity is a region that has pioneered hazardous waste management in New Zealand by putting in place regional and district plans and strategies to ensure that the region maintains its position as one of the cleanest in the country.



The Taranaki Regional Council has collected and disposed of more than 40 tonnes of hazardous wastes.

There were plenty of good reasons for Taranaki to tackle the issue and clean its back yard of hazardous wastes. While there continue to be gaps in the statutory obligations regarding management of hazardous wastes, Taranaki decided it should happen regardless. The good of the public health, protection of rural livelihoods from any threat relating to contamination of agricultural product, and a simple desire to maintain Taranaki's international reputation as a truly beautiful, green and clean region, were all sound reasons to collect and dispose of hazardous wastes.

As the articles in this booklet will show, Taranaki's campaign to rid itself of unwanted hazardous wastes began in the early 1990s as a result of growing

public anxiety throughout New Zealand over what hazardous wastes were being generated, and what was being done with them.

In some other parts of New Zealand, various incidents had heightened this concern. In one area, a major flood in a water supply catchment washed agricultural chemicals from farm sheds and contaminated the source of the municipal water supply. In another area, a fire in a farm barn caused real drama because of the mix of hazardous chemicals stored in the barn.

Taranaki reacted quickly to all this concern. In 1990 a Regional Waste Management Forum was established, made up of officers from the Taranaki Regional Council and the South Taranaki, Stratford and New Plymouth district councils. This forum soon began to develop a strategy that, amongst other things, recognised that regional waste management issues should best be managed jointly, with the Taranaki Regional Council taking a lead role in some matters, but with partnership between the four councils.

That soon led to the Taranaki Regional Council asking some important questions. How many old and unwanted agricultural chemicals were unnecessarily stored on Taranaki farms? What about urban households? Were any hazardous wastes seeping out from sites such as old disused rubbish dumps?

The Council set about dealing with the issue – with satisfying results. Thanks to the community's support for a series of hazardous waste collections in rural and urban areas, the Taranaki Regional Council is now confident that it has recovered the majority of unwanted hazardous wastes.

Of course there will always be more discovered – possibly by a widow cleaning out her late husband's shed; or by the next generation taking over the family farm; or simply by a farm property changing hands. And there will always be material discovered in household cupboards, garages or sheds that haven't been cleaned out for years.



Quantities of intractable hazardous wastes are recorded and carefully packaged for transport and disposal.

Taranaki's regional and district councils will continue to work with our community to deal with the small amounts of hazardous wastes that are still being recovered in the region.



A handwritten signature in black ink, which appears to read 'David Walter'.

David Walter
Chairman, Taranaki Regional Council

What are hazardous wastes?

Understanding the problem

Hazardous wastes come in many forms, ranging from sludges from timber treatment processes to waste cellphone batteries. They are unwanted or unvalued materials with hazardous properties that are discarded or discharged by their owners. In many cases hazardous wastes are simply stored in houses, sheds, garages, factories and other places.

The Ministry for the Environment has developed a definition of hazardous wastes which closely follows the definition of hazardous substances in the Hazardous Substances and New Organisms Act 1986 (HSNO). A hazardous substance is defined as “... any substance with one or more of the following intrinsic properties: explosiveness, flammability, a capacity to oxidise, corrosivity, toxicity (including chronic toxicity) and ecotoxicity with or without bioaccumulation...”

...WHILE MOST OF THESE CHEMICALS BREAK DOWN OVER TIME, A SMALL NUMBER ARE CHEMICALLY VERY STABLE AND CAN REMAIN POTENT FOR A VERY LONG TIME.

Hazardous wastes are not necessarily covered by HSNO and often consist of mixtures of materials or products that were manufactured years ago and are no longer wanted. The

Ministry for the Environment is developing a comprehensive policy framework for the future management of hazardous wastes but this still leaves the legacy of ‘historical’ hazardous wastes, a legacy that the Taranaki Regional Council is successfully addressing.

In fact, that legacy was the reason behind the public disquiet that led to what this booklet is all about – the successful collection and safe disposal of tonnes of hazardous wastes that were on Taranaki’s farms and in the region’s homes.

The manufacture and use of hazardous substances has been a part of life in Taranaki for many years. Agricultural chemicals, paints, batteries, household



Hazardous wastes range from household cleaners to agrichemicals.



Large quantities of old unusable agrichemicals had been stored on farms for many years.

cleaners, animal remedies and take-home oil packs are all examples of items that have potential to seriously harm the environment. This is particularly the case when stocks become old or outmoded, and end up sitting in farm or household sheds for years in containers that may become damaged or leak.

While most of these chemicals break down over time, a small number are chemically very stable and can remain potent for a very long time. This is particularly true of the group of substances known as organochlorines, also referred to as persistent organic pollutants (POPs). These are chemicals in which carbon and chlorine are combined, and which have been manufactured for a wide range of uses including pesticides, solvents and pharmaceuticals.

In Taranaki, organochlorines have been the predominant hazardous waste. Those of most concern in Taranaki include:

- DDT, an insecticide that was heavily used for agriculture. In 1970 the use of DDT on farmland was prohibited, and its sale for other uses (such as household borer bombs) was banned in 1989.
- Dieldrin, which was used as an agricultural insecticide and combined with other chemicals for use in the timber processing industry. Its sale for use in agriculture was banned in 1968, and its sale for use for other purposes (such as spider control) was banned in 1989.
- Lindane, which was used to help control grass grub and cattle lice, and for insect control on vegetables and in orchards. Its sale was banned in 1989.
- PCBs (polychlorinated byphenyls), which were used in the electricity industry from the 1930s, mainly in transformers and capacitors. PCBs were also used as heat exchange fluids, paint additives, in plastics, even in carbonless copy paper. The use of PCBs has been illegal since 1994.



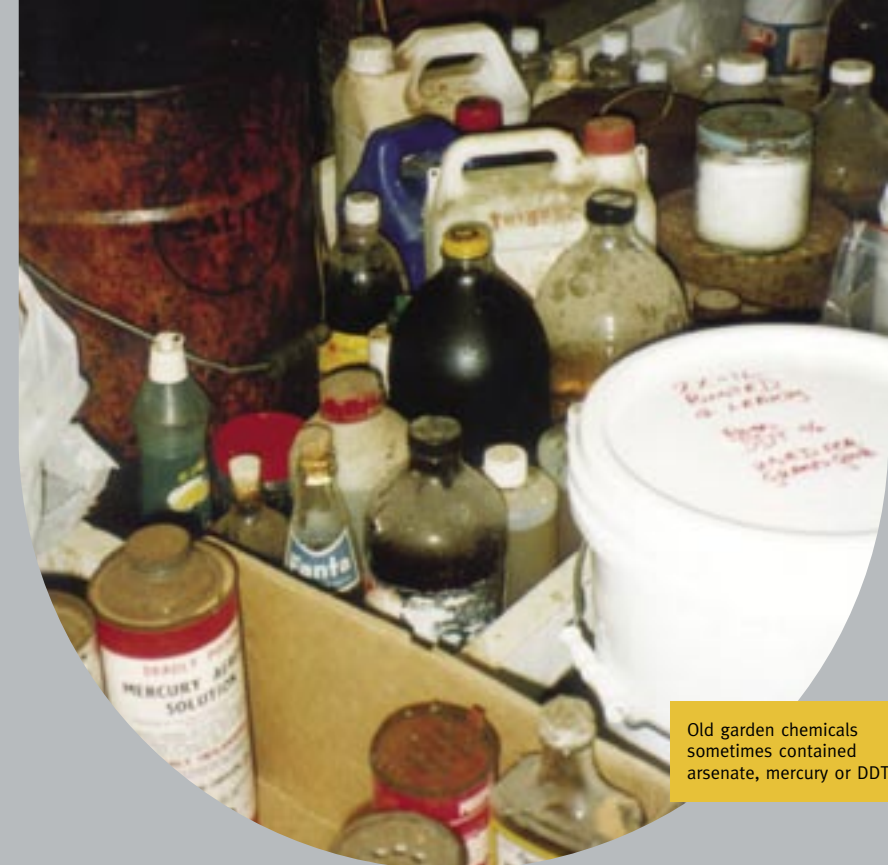
Significant amounts of PCBs were collected in the earlier collections. The use of PCBs became illegal in 1994.

Understanding what was out there

1990/1991

Taranaki is a pastoral region. Of its total land area of 723,610 hectares, 57% is used for high intensity pastoral farming – with over 2100 dairy farms and 1150 sheep and beef farms. Naturally then, agriculture dominates the local economy.

The use of chemicals in agriculture is widespread and long-standing, and is regarded by most as integral to high productivity and maintenance of the quality of any product.



...IN THE EARLY 1990S, AN INCREASING NUMBER OF FARMERS WERE EXPRESSING A DESIRE TO REMOVE SUCH CHEMICALS FROM THEIR PROPERTIES.

Herbicides, sanitisers, bactericides, fungicides, insecticides, defoliant, nematocides, rodenticides, acaricides, repellents, regulators, fumigants, preservatives,

stabilisers and fertilizers containing these substances have, over the years, helped reduce stock and crop losses, improve animal health, and increase farmer income.

But in the early 1990s the Taranaki Regional Council became concerned that the legacy of this usage may have been an accumulation of residues and redundant agricultural chemicals on farms across the countryside.

Dregs left in partially used containers, containers with labels missing, chemicals transferred into other containers and left unidentified, stocks forgotten, particular chemicals whose usage was outlawed, changes in farm management practices rendering some chemicals obsolete, and even farmer dislike of unwanted side effects, may have resulted in cocktails of potentially hazardous wastes posing risks to the Taranaki community, incomes and livelihoods, and the region's natural environment.

In the early 1990s, an increasing number of farmers were also expressing a desire to remove such chemicals from their properties, yet had no means of doing so in a practical and safe manner.

Old garden chemicals sometimes contained arsenate, mercury or DDT.

So the Taranaki Regional Council stepped in to help.

Because in 1990 there were a number of unknowns associated with any effort to collect, store and safely dispose of unwanted and redundant agricultural chemicals, the Council decided to run a series of trial collections in four different rural areas – an intensively farmed dairying area, inland hill country, a coastal hill area, and in a predominantly horticultural area. Each trial was designed to cover between 80 and 100 properties.

Staff involved were issued with protective clothing and respirators, and when they visited farms they took the necessary equipment and material to deal with any spilled chemicals or containers in poor condition. Special storage facilities were prepared to house any chemicals removed from farm properties.

Technical assistance was provided by New Plymouth-based agricultural chemicals manufacturing company DowElanco (NZ) Limited, which offered to help identify chemicals and advise on the best means of disposal, including taking responsibility for any of its own product recovered.

The four trial collections took place between December 1990 and May 1991, during which a total of 362 farms were contacted. Of those, 18 (5%) made use of the collection service by either delivering chemicals to the Council or by requesting a collection.

Of the chemicals collected, most were found to be immediately reusable and were distributed for use by Taranaki's three district councils and other parties. Less than one-quarter had to be passed on to DowElanco.

The average quantity of chemicals collected from each of the farms was 12 kg. Based on that figure, the Council estimated that a total of about four tonnes of redundant agricultural chemicals could be recovered from all farms in Taranaki – a worthwhile amount.

Something else very important occurred as a result of the trial - the Council began to receive numerous calls from farmers in other parts of Taranaki, asking for assistance to dispose of their own unwanted chemicals or seeking information on when the programme would be run in their particular areas. So offering the service had clear benefits for strengthening the Council's reputation in the rural community, as it went beyond the recognised inspection, regulatory and enforcement roles.

Clearly, there was demand for a collection programme to cover the whole of Taranaki. So the Taranaki Regional Council immediately set about organising it.



Farm chemicals stored in special facilities at the Taranaki Regional Council, awaiting appropriate disposal.



Unknown hazardous wastes were often dropped off in unlabelled or leaking containers.