

Summary Report: Waitomo Agrichemical Collection 2007

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Table of contents

1	Executive summary	iii
2	Introduction	1
3	Background	1
4	Method	2
4.1	The area	3
4.2	Initial communication	3
4.3	The Farmers/growers	4
4.4	External agencies	5
4.5	Notification	6
4.6	Letter and registration form	6
4.7	Publicity	6
4.8	Registrations	7
4.9	Pickup	8
5	Results and Discussion	8
5.1	Registration	8
5.2	Collection	10
5.3	Cost	15
6	Recommendations	16
7	Conclusion	16
	Appendix 1 – Farmers/growers letter	17
	Appendix 2 – Registration form	19
	Appendix 3 – Absentee landowners letter	20
	Appendix 4 – C/O accountants/solicitors cover letter	22
	Appendix 5 – Iwi notification letter	23
	Appendix 6 – TLA notification letter	24
	Appendix 7 – All staff notification email	25
	Appendix 8 – Phone prompt	26
	Appendix 9 – Materials collected	28

List of figures

Figure 1:	Summary of top seven agrichemicals by volume	11
Figure 2:	Categorisation by use group as percent volume of unwanted agrichemicals	12
Figure 3:	Comparisons of the agrichemical averages by landuse	13

List of tables

Table 1:	Table showing example averages of call times	10
Table 2:	Summary of the POPs collected in the Waitomo collection	11
Table 3:	Summary of top seven agrichemicals by volume	12
Table 4:	Summary of the collection results for dairy farms	13
Table 5:	Summary of the collection results for drystock farms	13
Table 6:	Summary of the costs of the Waitomo Collection	14
Table 7:	Cost per unit collected	14

Executive summary

Following agrichemical collection trials undertaken in 2004-2005, Environment Waikato, in association with the Ministry for the Environment, carried out a collection of unwanted agrichemicals in the Waitomo District in the 2006-2007 financial year. The collection programme was undertaken to reduce the legacy of Persistent Organic Pollutants (POPs) on rural properties. The main aim was, therefore, to collect POPs - but all unwanted agrichemicals were collected. This was partly because it was thought that farmers/growers were not in the position to separate POPs from other agrichemicals.

This report outlines all the factors considered in scoping out and implementing a sub-regional unwanted agrichemical collection and can be used to guide further collections in other parts of the region.

The budget allowed for this free service to be offered to all farmers/growers in the Waitomo District and for 4.5 tonnes of agrichemicals to be collected over the summer of 2006-2007. At the outset, it was estimated that the owners/managers of 1000 rural properties would need to be contacted and registration gained from 10% of these to collect the maximum possible volume of agrichemicals within funding constraints. The project was communicated to farmers/growers through a letter (which included a registration form to be returned) and articles in a local newspaper. Both the letter and advertisement requested registrations of any agrichemicals that were unwanted and required collecting. This initial contact was followed by a reminder phone call inviting those who had not yet registered to do so.

From Environment Waikato's *Properties - GIS Layer database*, there initially appeared to be 1016 individual farmers/growers in the Waitomo District. As the project progressed and 'double-ups' and some others were removed, it was found that 638 farmers/growers needed to be contacted. A total of 510 of the farmers/growers (80%) were contacted. This number was made up of the 107 registration forms received and another 403 farmers/growers were contacted by phone. From these, 152 farmers/growers (24%) registered agrichemicals for collection. From details of registration it was estimated that around 4.4 tonnes of agrichemicals would be collected.

At the completion of the collection, a total of approximately 4.5 tonnes of unwanted agrichemicals had been collected from 130 farmers/growers (20%) with a mean volume of 35kg per participant and a median of 17kg. POPs were collected from 18 properties (14 % of those collected from) with a total volume of 265kg (6% of total). There is a notable lack of information pertaining to the amount of obsolete and legacy agrichemicals left uncollected in the district. The project cost Environment Waikato approximately \$69,000. Budgeted to cost \$20 per kg of agrichemical collected, the collection finished under budget, at a cost of only \$15 per kg. This cost, however, can be looked at as \$530 per participant or \$260 per kg POPs. The disposal, estimated using \$10/kg, cost the Ministry for the Environment around \$450,000.

The project was successful in collecting the volume estimated, gaining a response from a large number of farmers/growers, and collecting from a significant proportion of farmers/growers. The project was also successful in terms of collection costs - finishing under budget. The low quantity of POPs collected, however, raises questions over the efficiency of this method to collect them. If based on only the volume of POPs collected, because of the low volume collected, the project was expensive. But, if assessed based on collecting unwanted agrochemicals and removing them from the rural environment the project was successful.

2 Introduction

Over the summer of 2006-2007 (following trials undertaken in 2004-2005), Environment Waikato (EW), in association with the Ministry for the Environment, undertook a collection of unwanted agrichemicals in the Waitomo District. The collection service was free for participating farmers/growers and assurance was given that individuals' details would not be recorded. Although the collection targeted specific types of agrichemicals (Persistent Organic Pollutants), all unwanted agrichemicals were collected.

Persistent Organic Pollutants¹ (POPs) are chemicals that remain in the environment for long periods of time, accumulate in the fatty tissue of living organisms and are toxic to humans as well as livestock. In the past, some of these hazardous 'POP' chemicals have been used on farms to control pests – infamous examples include DDT and dieldrin. Surplus agrichemicals have often remained on rural properties and in sheds, even though they are banned and most POPs have been deregistered for over 15 years.

As a signatory to the Stockholm Convention, New Zealand must stop releasing into the environment chemicals that contain POPs. This means that landowners can no longer use chemicals containing POPs and they are required to safely dispose of them. The collection was organised because handling POPs can be dangerous and disposal is expensive. An experienced and independent contractor visited the registered farmers/growers to collect the unwanted agrichemicals.

Initially farmers/growers were contacted by mail (4 January 2007) and then by a follow-up phone call (mid January). The actual pickup of agrichemicals occurred between 7 February and 3 April 2007.

The project had endorsement from Federated Farmers, Fonterra and WaiPAC (Waikato Pesticides Awareness Committee).

3 Background

During 1992-1994, Environment Waikato ran an extensive region-wide agrichemical collection campaign in which 62 tonnes of unwanted agrichemicals were collected. This total included 7 tonnes of POPs and 8 tonnes of unidentified agrichemicals. Following this campaign, a number of transfer stations were fitted with facilities to receive domestic hazardous wastes and unwanted agrichemicals. Environment Waikato has worked in partnership with Territorial Local Authorities to provide this service as both Environment Waikato and the Territorial Local Authorities have responsibilities for the management of hazardous waste. The main objective of the service has been to ensure that hazardous wastes are managed in a manner that avoids adverse effects on the environment and on the health and well-being of the community. The relevant Territorial Local Authorities provide and manage the transfer station facilities and pay for the disposal of household hazardous waste, while Environment Waikato funds the sorting of all the hazardous wastes and the disposal of the agrichemicals.

The Ministry for the Environment recently became involved with the unwanted agrichemicals issue to ensure New Zealand complies with its obligations under the Stockholm Convention. The Ministry for the Environment is providing national assistance by funding some of the disposal costs for, and providing educational material about, unwanted agrichemicals. The programme has two stages. The first stage is to remove, as much as possible, historical legacy agrichemicals. A key focus is

¹ Persistent Organic Pollutants (POPs) are the 12 persistent chemicals included in the Stockholm Convention: aldrin, chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxins, endrin, furans, heptachlor, hexachlorobenzene (HCB), mirex, polychlorinated biphenyls (PCBs) and toxaphene.

the removal of POPs that are banned under the Hazardous Substances and New Organisms (Stockholm Convention) Amendment Act 2003. The second stage is to put in place a longer-term solution to manage and dispose of future unwanted agrichemicals to make sure that New Zealand does not have a repeat of this problem in the future (from EWDOC # 981214).

Over the summer of 2004-2005, Environment Waikato trialled three different methods for the collection of unwanted agrichemicals. The aim of the trials was to find the most efficient and cost effective method for collecting unwanted agrichemicals. The trial areas contained approximately 150 farmers/growers each and included a range of land uses. The three methods trialled were:

- 'On-farm' - a contractor visited and collected unwanted agrichemicals from the property of each farmer/grower that registered.
- 'Hazmobile' - a truck with facilities to receive agrichemicals was situated at a rural location. Participating farmers/growers were booked in to bring in their agrichemicals to that location at a specified time.
- 'Transfer station' - an existing reception facility was more intensively promoted and farmers/growers brought in their unwanted agrichemicals to the facility at a specified time.

Although having the highest cost per kg, the 'on-farm' collection method also had the highest participation rate. When farmers/growers were surveyed post-collection, they did not indicate a preference for a particular collection method, but comments suggested that they would rather have someone pick up agrichemicals from their property. It was also clear from the trials that contact by both letter and phone is preferred and effective (EWDOC #981214). The results and recommendations from these trials helped guide the 2006-2007 project.

4 Method

The following section was written with future collections in mind. It not only describes the collection that was undertaken in 2006-2007, but it can be used as a reference for future collections. The outline is not in chronological order but all points should be noted. See EWDOC #1248380 for a more comprehensive explanation of exactly how the agrichemical collection was undertaken.

This project started with a review of all relevant literature. All Environment Waikato reports, documents and files about agrichemical collections were read and marked for relevance. Especially useful was the report produced on the 2004-2005 trials (EWDOC #981214). This review of literature was followed by research into Environment Waikato's responsibilities and also wider topics such as agrichemicals and hazardous substances in general and the Stockholm Convention.

A plan of the project was created (EWDOC #1129349). This used information from the 2004-2005 trials report (EWDOC #981214) and the timeline that accompanied it (EWDOC #964344).

The quantity of agrichemicals that could be collected during this project was restricted by the disposal tonnage allowance from the Ministry for the Environment and an Environment Waikato budget for collection costs. Planning was required to determine how many farmers/growers would need to be collected from, estimating how much agrichemical would be received from each, in order to most effectively utilize the Ministry for the Environment allowance and the Environment Waikato budget. The following is paraphrased from a file note (EWDOC #1091833) estimating the amount of agrichemicals able to be collected in the 2006-2007 financial year:

In the 2005 trial three different methods of collection were trialled, the method involving collection directly from each farm ('on-farm') was the most effective and would be used for further work. The cost of collection for the 'on-farm' trial

was high at \$40/kg due to the small amount collected from each farm, on average 13 kg. Experience elsewhere suggests that this amount is low and more usually 50 kg is collected. On this basis it is reasonable to presume a larger amount would be collected from each farm. This would reduce the estimated collection cost. I have estimated the collection cost to be \$20/kg. Based on \$80,000 being available to pay for collection, it would be expected that 4,000 kg would be collected from 100 farms. I would expect between 10 – 15% of farms to take part in the collection, so this would provide coverage of between 1000 – 1500 farms. Some enhancement to the programme could be achieved by making a minimum amount for pick up. Where the amount is less than 5 kg, other things being equal, the environmental risk is not great and the farmer could easily take the chemical to a drop off point. This would effectively reduce the cost of collection and result in an estimated 15% more chemical being collected (4000 kg to 4600 kg).

Taking this into consideration, it was estimated that about 1000 farmers/growers should be contacted, getting a registration rate of between 10-15% and collecting between 30-40kg from each participant (getting a total of 3000-6000kg). The target of the collection was set at 4500kg.

4.1 The area

Deciding on a target area to encompass the 1000 farmers/growers to be contacted was one of the more time consuming tasks of the planning process. The area collected from needed to have a high proportion of drystock farms because this land use type is more likely to have POPs (Dr. N. Kim, Environment Waikato, pers. comm., 2006). The first idea was to try and cover an entire catchment. The first proposed target area was the Kawhia Catchment. Following Rural Delivery (RD) runs (it was thought that following RD runs would be helpful when sending a mail-out). A number of RD runs were selected and the number of farmers/growers looked promising. It was then revealed that the number was less than originally estimated, so the area was extended south towards Marakopa and then east towards Piopio.

The focus then shifted to targeting one Territorial Local Authority area or *district*. The main benefit of using a district boundary, rather than following catchments or RD runs, was that district boundaries are strictly defined. Every farmer/grower should know which district they are in. This determines to whom they pay their rates. The use of a Territorial Local Authority boundary also held benefits when it came to publicising the collection.

The originally proposed Kawhia/Marakopa/Piopio polygon crossed into three different Territorial Local Authority areas: the Waitomo, Otorohanga and Waikato districts. The majority (70%) of the polygon was in the Waitomo district which resulted in this district being considered for the collection. The required number of farmers/growers matched the number in the Waitomo district and there are a high proportion of drystock farms (90%) compared to dairy (10%). The decision was made to collect from Waitomo district.

4.2 Initial communication

Considerable time was spent selecting the best way to communicate the free agrichemical collection to farmers/growers in the Waitomo District in order to maximise participation. The options deemed acceptable and achievable were a letter and/or a brochure. The Ministry for the Environment was asked if they could supply a generic brochure that could be included with a letter. They did have a brochure, but were not willing to supply it free of charge. As it was too expensive to produce both, this confirmed that it had to be either letter or a brochure, not both. Costs and benefits were also investigated as to whether the mail-out was sent to individual addresses or sent to all registered rural properties on RD runs. There were, therefore, four options:

- Individually addressed letter
- Individually addressed brochure
- RD-dropped letter, or
- RD-dropped brochure.

The personally addressed letter option was chosen. The advantages of this type of communication include the following:

- A personally addressed letter would probably gain the greatest coverage of farmers/growers.
- It would be known exactly who the personally addressed letter was sent to. This would be advantageous when it came to contacting the farmers/growers by phone, for compiling data on percentage responses, and also in the receipt of registrations.
- A personally addressed letter can easily follow a district boundary. A brochure, unless mailed to individual addresses, would follow RD runs which do not correspond to district boundaries.
- A personally addressed letter was assumed to be less likely to be thrown away with junk mail.
- The farmers/growers would keep the personally addressed letter and the information it contains regarding agrichemicals, while a separate page would be used as a registration form. If a brochure combined with a registration form was used, as soon as the farmer/grower sent the brochure back as registration, they would have lost the information that the brochure contained.

Windowed envelopes were used because a letter folding machine was used that folds and puts letters into envelopes with the address in the window. This was more convenient and efficient than having to write/stick addresses on every envelope. A copy of the letter sent to all rural land owners/occupiers in the district can be found in Appendix 1 and the registration form that accompanied it in Appendix 2.

4.3 The farmers/growers

A list of all the farmers/growers in the Waitomo District was sourced from Environment Waikato's *Properties - GIS Layer database*². The list, however, contained a lot of farmers/growers listed more than once ('double-ups') and considerable time (in the order of three days) was required to amend it. The list was sorted by name and address and 'double-ups' were manually removed. Properties less than 40,000m² were also removed as it was assumed these small properties were less likely to have unwanted agrichemicals. The list was not finally completed until very late in the project.

The internet White Pages were used to source phone numbers for the farmers/growers on the list. For the few that could not be found in the White Pages, the Environment Waikato contacts database and Fonterra Suppliers List were searched.

There were a number of farmers/growers whose postal address did not match the physical address (farm location) - that is, the 'occupier' did not actually *occupy* the property. As the information was sourced from the rates database, this was usually because an absentee landowner leased out the property but still paid the rates. There were also entries on the list that the 'occupier' address was C/O an accountant/solicitor, that is, the accounts (including rates) were managed and received by an accountant/solicitor. Absentee landowners were identified, separated out and subsequently sent a slightly different letter (see Appendix 3). Farmers/growers with mail sent C/O their accountant/solicitor were also separated out and a cover letter was included with their mail-out asking the accountant/solicitor to forward the information to the farmer/grower (see Appendix 4).

² This is a join of the LINZ CRS_PARCEL data (from the Core Record System GIS layer) and the Valuation data as supplied from District Valuation Roll (extracted from the EW LAND application).

4.4 External agencies

A part of the marketing strategy of the collection was to get endorsement for the project from some of the large organisations which have an interest in the rural sector and agrichemical industries. The potential agencies identified were: WaiPAC (Waikato Pesticide Awareness Committee), Fonterra, Federated Farmers and Meat and Wool NZ. WaiPAC, Fonterra and Federated Farmers were all willing to endorse the collection and allow the printing of their logo on the letter and registration form. Meat and Wool NZ supported the project but unfortunately did not want to be involved in publicly endorsing it. Their concern was the potential adverse impact that may arise to overseas markets because of a change to the current (incorrect) assumption that New Zealand farmers do not have POPs on their properties.

Local schools were also identified as a possible marketing medium through advertising in their newsletters and using the students to convey the message. Unfortunately school holidays clashed with the collection period in this case. Other agencies that could be contacted for endorsement of future collections include: the relevant Territorial Local Authority, Federated Farmers Women's Division, Horticulture New Zealand and the local Young Farmers' Club.

WaiPAC

WaiPAC was very helpful and has worked on many unwanted agrichemical collection programmes in the past. We got permission from WaiPAC to use their logo and one of their meetings was attended to discuss the collection project and get ideas and feedback. They were happy to help and were a great support when it came to proof reading the letter.

Fonterra

Fonterra was also very keen to help. They allowed the printing of the Fonterra logo on the letter and registration form and also put an advertisement on dairy tanker dockets.

To attach a note to tanker dockets, Fonterra needed a list of the target dairy farmers including the five digit supplier number. The supplier number can be sourced either directly from the dairy farmer or indirectly from the Fonterra Suppliers List (a list of details of all dairy farmers under contract to Fonterra). Environment Waikato is able to use the list, for consent and statutory requirements, through an agreement with Fonterra. The agrichemical collection is not a consent or statutory requirement and, because of this, special permission was gained from Fonterra to use the list. A list of the Waitomo dairy farmers, including their supplier numbers, and a suggested note were forwarded to Fonterra. A line and word limit restricted the note that could be put on the docket:

*"FREE unwanted agrichemical collection in
Waitomo District. Registration date
now 26th Jan. Fonterra urges all farmers
with such chemicals to register now!
Phone Environment Waikato 0800 800 401"*

Federated Farmers

Federated Farmers, both regionally (Waikato) and locally (Waitomo), were very happy to help with the collection in any way they could and happy for their logo to appear on the letter and registration form. A quote, similar to what was written for the 2004-2005 trial letters, was requested. The quote, signed off by the regional president, read:

*"Many farms have agrichemicals that have passed their 'use by' date,
are no longer registered for use, or are no longer required due to
changes in the farming operation. We therefore support Environment
Waikato and the Ministry for the Environment's initiative to provide a
free service to dispose of agrichemicals in a way that does not risk the
contamination of our farms and environment."*

Contact with the secretary and chairperson of the Waitomo branch of Federated Farmers resulted in an advertisement in the Waitomo News under their logo, endorsing and advertising the collection.

4.5 Notification

It was considered important that some external parties be informed about the agrichemical collection, in particular, local iwi and the local Territorial Local Authority (Waitomo District Council). Internal notification was also required to inform the local (King Country) councillor and general Environment Waikato staff. Notification letters were sent out to all these stakeholders (see Appendices 5, 6 and 7).

4.6 Letter and registration form

Information included in the letter was sourced from the Ministry for the Environment brochure on agrichemicals (EWDOC #1151310) and from the letter sent out in the 2004-2005 trials (EWDOC #964249).

The collection was to keep individual's registration details confidential (i.e. Environment Waikato would not keep records of the amount or types of agrichemicals collected from individual farms). Transport regulations, however, required the contractor to record the type and amount of agrichemicals collected.

A registration form was needed so that farmers/growers could notify Environment Waikato of any agrichemicals to be collected. The registration form from the 2004-2005 trials (EWDOC #964249) was used as a start point. The Contractor was consulted to ensure the registration form requested all the information that was needed. Environment Waikato freepost return envelopes were included with the letter to make registration more convenient.

The final list of farmers/growers (Microsoft Excel file) was used to create a mail-merge in Microsoft Word using Power-Docs Mail-Merge. The mail-merge was set out as follows:

«OCCUP1_FIRST_NAME» «OCCUP1_SURNAME»
«OCCUP2_FIRST_NAME» «OCCUP2_SURNAME»
«OCCUP1_ADDR1»
«OCCUP1_ADDR2»
«OCCUP1_ADDR3»
«OCCUP1_ADDR4»

Dear «FIRST_NAME1» «AND» «FIRST_NAME2»

4.7 Publicity

The most appropriate media source that could be found was the Waitomo News. This newspaper is delivered to all residents in the Waitomo and Otorohanga districts. Therefore, the wording of any media-release had to clearly state that the collection was specifically for the 'Waitomo district' to avoid getting registrations from the Otorohanga district.

The first media-release was well received and picked up a few farmers/growers that the letter had not and also a few retired farmers/growers who had kept agrichemicals. The wording of the media-release may not have been specific enough, however, because some phone calls were received from outside the Waitomo district. The situation was explained to them, and their details taken. They were told:

"This collection is intended for farmers who come under Waitomo District Council. Depending on the amount we collect from the

Waitomo District, we may be able to collect your chemical, and we will call you back to confirm this.”

The Waitomo Federated Farmers President put in an advertisement in the Waitomo News under their logo. This notice coincided with the media-releases mentioned above and below.

A change to the final registration date (extending it a week) gave the opportunity to put out another media-release to the Waitomo News. It may be advantageous to take this approach with future collections; it not only gave the farmers/growers more time to register, but also allowed another opportunity for media coverage. This final article was accompanied by a colour photo. The newspaper editor unfortunately changed ‘*Waitomo district*’ to ‘*north King Country*’, prompting more farmers/growers from outside the target area to call and try to register. Again, the situation was explained and their details taken, pending a phone call back to confirm whether or not their agrichemicals could be collected.

4.8 Registrations

Registration List

A Microsoft Excel file was created from the final list of farmers/growers to record registrations. Fields for registration information included:

- “Received letter” – whether or not the farmer/grower received the letter. This was not so important for those who sent back the registration form, for obvious reasons. Next time it may be helpful to have a code for: who sent the form back, who phoned Environment Waikato, and who Environment Waikato phoned.
- “Participate” – whether the respondent had agrichemicals they wanted collected.
- “Type of chemical” – the types of agrichemicals to be collected.
- “Amount” – an indication of the amount of agrichemical to be collected.
- “Quality of containers” – an indication of the quality of the containers, stating whether they would need replacing prior to transport.
- “Address” – confirm a physical location address for pick-up.
- “Notes” – this was to include anything that farmer/grower wrote on the ‘comments’ field on the registration form, and anything else of importance/relevance to Environment Waikato or the contractor.
- “Anyone else to contact” – this field was used when we did not know the phone number of a neighbour and in this field the unknown neighbour’s name and address were put as a reminder to ask for their details.

Phone calling

One person was employed to call the farmers/growers, and the calling times were breakfast, lunch and dinner times (between 8.00am-9.30am, 11.30am-2.00pm, and 5.00pm-8.00pm). A phone prompt was created to follow (see Appendix 8).

When a phone call was directed to an answer phone, no message was left. This was because it was thought that confusion may result from trying to convey information over an answer phone message. It could be an idea to leave messages next time – even if it is just requesting a phone call back.

Participant list

After the registration period and phone calling was over, a final participant list was created in MS Excel and moved into MS Access to rearrange. This list, sorted by address, was given to the contractor who visits each property to collect the unwanted agrichemicals. The contractor requested maps of the area, but these were unable to be produced because of a timing problem between Environment Waikato and the contractor’s schedule (the contractor wanted to pick up the participant list early – before the maps had been produced). The type of maps the contractor requested were road maps with participants’ addresses plotted with a link to the participant list.

4.9 Pickup

The participant list was given to the contractor. The contractor then decided on the most efficient and logical way of picking up the agrichemicals and carried out the collection, phoning participants to advise them of the collection date and time. The contractor sent in daily reports of who he had collected from, what agrichemicals he had collected, and any problems he had encountered.

5 Results and discussion

5.1 Registration

The Waitomo District was the target area for the collection. It is a discrete area with known boundaries and was thought to contain an appropriate number of farmers/growers (approximately 1064). Evaluating the exact number of farmers/growers in the area was difficult. The use of a discrete territorial boundary as the limit for the collection proved very beneficial. The farmers/growers were well aware of the boundary (because of District Council rates). Some farmers/growers from outside the area tried to register and, usually, understood the limitations of the collection when the boundary was explained. This may not have been the case if a catchment boundary or random polygon was used.

The final mail-out consisted of two information pages (see Appendix 1) and a registration form (see Appendix 2) for farmers/growers to return. The first page included the endorsement statement from Federated Farmers (see section 3.4). Both the second page of the letter and the registration form had the logos of supporting agencies printed on. A freepost return envelope was included to simplify and encourage registration. The letter proved to be an effective method of contacting the farmers/growers. When phone contact was made with the farmers/growers, the majority had at least sighted the letter and were aware of the collection, even though some had not yet read it. The letter did not appear to have been thrown out with 'junk mail' – assumedly attributable to the fact that it was a professional, personally addressed letter from the regional council. The content of the letter seemed appropriate. Most farmers/growers understood what was involved and what was required of them. Clarification of some points was needed – most commonly what materials *would not* be collected. A number of farmers/growers tried to register empty containers, waste-oil or batteries for collection. A few farmers/growers were annoyed that these were not being included in the collection, but the majority understood the collection constraints.

The total number of farmers/growers thought to be in the district was a moving target throughout the collection programme because of difficulties with the information sources whence their details were obtained. When the Waitomo district was first chosen as the target area, it was thought there were around 1064 farmers/growers in the area. This was consistent with the number of farmers/growers expected to best utilise the funding available. As collection progressed, however, approximately 250 double-ups were found on the list. This resulted in only 818 letters being sent out.

For future collections, it is important to remove double-ups as quickly as possible. There are two reasons for this. Firstly, because it misrepresents the number of farmers/growers requiring contact and from whom agrichemicals might be collected, and secondly, it is annoying (both for Environment Waikato and the farmer/grower) and unprofessional when more than one letter is sent or phone call made to the same person. There could be an opportunity to obtain farmer/grower information from a different database with fewer double ups, possibly the *Agribase*TM database.

After working through the list and phoning the farmers/growers, more names were added (as some farmers/growers, which originally appeared to be double-ups, were

companies that owned multiple properties, each with a separate manager - therefore not technically 'double-ups'). Due to additional information given by respondents, the final list for phoning had 832 contacts.

About 80% of the phone numbers were found using the internet White Pages. Background knowledge of the Waitomo area allowed the project manager to find farmers/growers with slightly different initials or addresses. After all apparent sources were utilised (White Pages, Environment Waikato contacts, Fonterra Suppliers List) there was still a list of 47 farmers/growers without a phone number. Attempts were made to attain contact details for these farmers/growers but, in the main, there was little success.

A seven-week period was sufficient to contact the targeted farmers/growers. It is thought that this could be substantially lessened by having intensive calling sessions with more than one person calling. Another option to reduce time could be to advise that registrations can be made by phone or email, and that individuals will be phoned, rather than requiring individuals to send back the registration form. This would save the time lost waiting for registration forms to come back in the mail.

After the seven-week period, contact had been made with 510 farmers/growers. 107 registration forms were received, and with a further 403 farmers/growers were contacted by phone. Out of the total (832), 106 could not be contacted (47 phone numbers could not be found and another 59 did not answer the phone, even though multiple attempts were made) and 194 did not require contact. Reasons for those not requiring contact included the property being:

- a double-up that had not initially been removed
- bush rather than being used for farming
- leased by a neighbour (who was contacted), or
- a small property (if a property with a total size of less than about 60,000m² could not be contacted within three phone calls, no further effort was put into continuing to reach them).

Using the total number of farmers/growers (832), contact was made with 61% of them. Using the updated number, (638 which is the total number minus the 194 not requiring contact), contact was made with 80% of farmers/growers.

Approximately 25 of the letters (3%) were undeliverable and returned to sender. This is apparently expected and quite normal. There was not much that could be done about these. It was hoped that these few farmers/growers saw an advertisement or received a phone call. A lot of the returned mail ended up matching to the few individuals for whom phone numbers could not be found. The 25 'return to sender' envelopes and another 4 letters that were returned with occupier updates (new owner, change of address, etc) were forwarded to the relevant person within Environment Waikato to update the rating database.

Most of the registration forms received arrived within the specified registration time frame. A few came in a little bit late, but not too late to be included. It is hard to give the exact percentage of registrations forms that were received. In saying 'out of the total of 793 (818 sent minus the 25 that were returned to sender), 107, or 13.5% of the registration forms were received', we are assuming that, other than the 25 letters that were returned to sender, all were received.

Of the 107 registration forms received, 52 (48.6%) stated they had no agrichemicals to be collected (including 4 fax and 1 email), and 55 (51.4%) registered agrichemicals to be collected (including 12 fax and 1 email).

Phone calls were made to 403 farmers/growers over a 4-week period. Three full weeks were used to make calls and the final week was used to try and contact those who had not been reached. The responses received from farmers/growers were mostly positive.

Even if they did not choose to participate, the farmer/grower was still polite and often thanked us for the service, disappointed they could not take advantage of it. Although there was a prompt script prepared to read from (see Appendix 8), it was just as easy, effective, and less boring if the caller knew the basics of what needed to be said and ad-libbed. The two best times of the day to call were around lunch and dinner times. Calling between 8.00am-9.30am was not very successful. By far the best time to get in touch with farmers/growers was between 6pm and 8pm. Table 1 outlines information averaged from a three day period. It shows the number of calls attempted per hour and also the number of successful calls (calls answered where a 'yes' or 'no' response was obtained) per hour. This can be used to estimate the time it took to contact one farmer/grower by phone (taking into account the time taken with unsuccessful call attempts). The success of phone calls will depend on what time the call is made, what day of the week it is and also how many times the number had already been tried. Near the end of the calling period, when some farmers/growers were being tried for the third or fourth times, there was little likelihood of success.

Table 1: Table showing example averages of call times

Time of Day	Number of calls (per hour)	Number answered (per hour)	Time per call answered (mins)
Lunch (11.30am-2.00pm)	25.5	11.25	5.33
Dinner (5.00pm-8.00pm)	27.3	16	3.75

It is important to note that these call times were recorded near the start of the calling period and were the first attempts to contact each person. As the phone period progresses, and calls are further attempts to contact the same people (who are difficult to contact), these times will no longer be representative.

After advertising the collection in the Waitomo News, a newspaper that covers an area larger than just the Waitomo district, 30 registrations were received from outside the target area. These farmers/growers were phoned and it was explained to them that they could not be included in the Waitomo collection. They were advised that the easiest thing to do in this situation was for them to transport their agrichemicals to an appropriate transfer station (if feasible and safe). They were also advised that Environment Waikato would phone them at the end of the Waitomo collection to get an update and check whether they needed a separate collection to be organised. Separate collections were organised for two of the Otorohanga residents; one was because the drum of agrichemical was large and starting to leak and the other was because the person was not willing to take a 5L container (in good condition) to a transfer station. The remaining 28 were willing to try and take their agrichemicals to the transfer station.

At the commencement of the actual agrichemical pickup, 152 farmers/growers had registered. Using the earlier total of 832, the registration rate was 18.3%, using the updated number of 638; the registration rate was 23.8%.

Of the 152 farmers/growers that registered, 106 had stated a quantity estimate of the agrichemical they had for collection. Summing the estimates gave 3050kg, or, 28.8kg per farmer/grower. Extrapolation of this to include those without an estimate gave a total pre-collection prediction of collecting about 4378kg of agrichemicals from the 152 farmers/growers registered.

5.2 Collection

A 14.5% drop-out rate resulted in the contractor's collecting agrichemicals from 130 of the 152 farmers/growers that were registered. Using the earlier farmer/grower total of 832, the final participation rate was 16%. Using the updated number of 638, it was

20%. The majority of farmers/growers participating in the collection were drystock farms (92%) compared to dairy (8%). A total of 4545kg of unwanted agrichemicals were collected from the 130 properties; with an average of 35kg per participant and a median of 17kg. Of this total, 1,143kg (25%) were identified as local³ and 3,403kg (75%) identified as intractable⁴.

Both the registration and participation rates were higher than the expected participation rate of 10-15%. Originally it was proposed to contact 1000 farmers/growers and with an expected 10% registration rate, collect from 100 farmers/growers. Although fewer than 1000 farmers/growers were contacted, a higher than expected registration rate resulted in a higher than the predicted amount of farmers/growers being collected from. The final amount collected was very close to that needed to efficiently utilize the budget (4.5 tonnes) but it was probably more luck than good management that the calculations estimated an amount not too dissimilar to that which was actually collected.

Table 2 summarises that POPs were collected from 18 properties (14% of total) with a volume of 265kg (6% of total). Two of these properties had more than one POP. Of the DDT, 89% (96kg and 89kg) was collected from two properties. See Appendix 9 for a full list of the agrichemicals collected and their respective volumes. This confirms the presence of POPs on New Zealand rural properties regardless of the type of farming undertaken on them. Given this, stakeholder groups reluctant to be seen to be involved in a scheme to remove these unwanted agrichemicals from the environment (see section 3.4) might want to reconsider their position.

Table 2: Summary of the POPs collected in the Waitomo collection

POP	Number of properties	Quantity (kg)
DDT	11	196.8
PCB	3	53.7
Dieldren	4	13.2
Aldrin	1	0.9
Chlordane	1	0.6
TOTAL	18	265.2

The herbicides 2,4-D and 2,4,5-T (789kg and 673kg respectively), together formed 32% by weight of the total volume collected. Unknown agrichemicals made up about 9% of the total. A total of 127 different agrichemicals were collected. Seven of these made up 56% of the total volume. One hundred and twenty of these made up the remaining 44% and each of these had volumes less than 3% of the total. Twenty seven agrichemicals (21%) were in volumes of 2kg or less. Figure 1 and Table 3 shows the categorisation by agrichemicals of the top seven. See Appendix 9 for a full list of the agrichemicals collected and their respective volumes.

³ Local agrichemicals are those that can be (as determined by The Ministry for the Environment's *designation-list*) treated and disposed of in New Zealand.

⁴ Intractable agrichemicals are those agrichemicals that must (as required by The Ministry for the Environment's *designation-list*) be shipped off-shore for treatment/disposal. Includes all POPs.

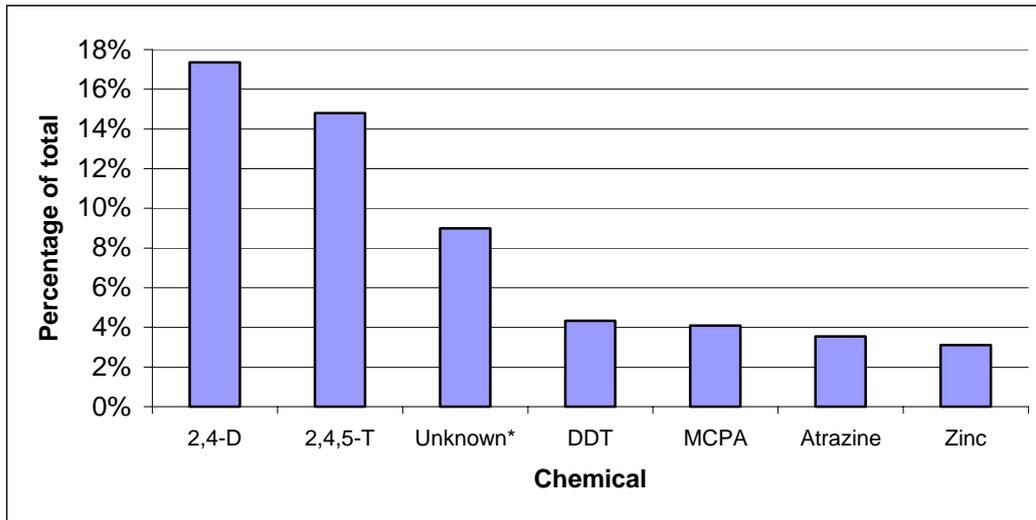


Figure 1: Summary of top seven agrichemicals by volume

*Unknown refers to chemicals with an unknown active ingredient.

Table 3: Summary of top seven agrichemicals by volume

Agri-chemical	Farms collected from (#)	Mean volume of agrichemical (kg)	Median volume of agrichemical (kg)	Total volume of agrichemical (kg)	Proportion of total
2,4-D	39	20.2	6.2	789.1	17.36%
2,4,5-T	30	22.4	4.5	672.5	14.80%
Unknown*	45	9.1	4.8	408.7	8.99%
DDT	11	17.9	0.6	196.8	4.33%
MCPA	12	15.5	4.15	185.6	4.08%
Atrazine	9	17.9	5.7	161	3.54%
Zinc	4	35.2	19.95	140.8	3.10%
TOTAL				2554.5	56.20%

*Unknown refers to chemicals with an unknown active ingredient.

Figure 2 shows the categorisation by agrichemical type and illustrates the predominance of herbicides (58%), followed by insecticides (16%) and animal remedies (10%). The 'Other' category in Figure 2 includes trace element, IGR, preservative, disinfectant, spray additive, and detergent. These each made up <4% of total.

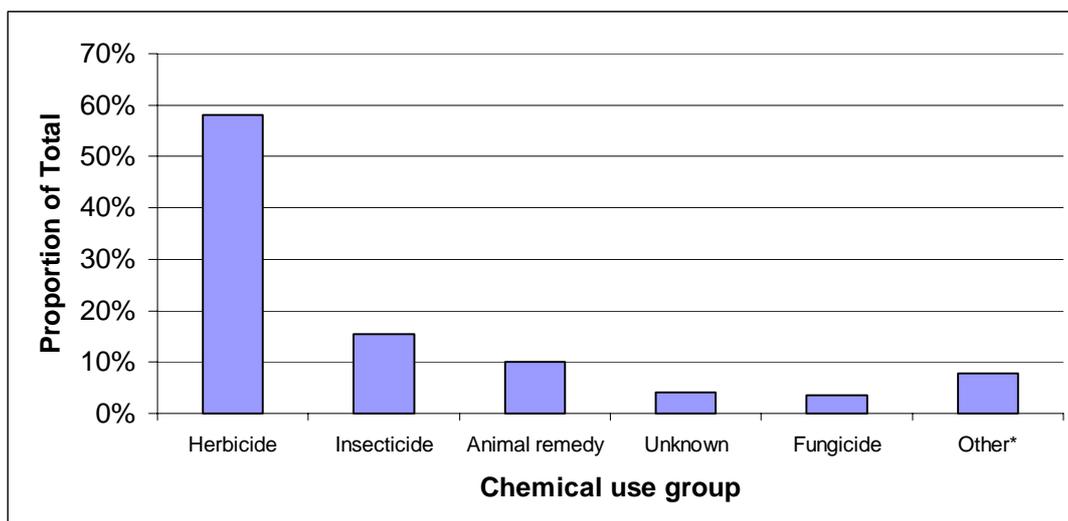


Figure 2: Categorisation by use group as percent volume of unwanted agrichemicals

Only 106 of the 152 farmers/growers registered an estimate of the amount they had to be collected. From the quantities of agrichemicals registered it was estimated that about 4320kg of agrichemical would be collected, this was only marginally lower than the total 4545kg collected. The estimate was representative of the actual amount collected, being within 5%. However, because 22 of the farmers/growers dropped-out of the collection, the amount that would have been estimated to be collected from 130 farmers/growers would have been 3695kg - 19% less than what was actually collected.

The land use type proportions (drystock to dairy) for participating farmers/growers (92% drystock, 8% dairy) match well with that of the entire district (90% drystock, 10% dairy). This suggests that participation is not influenced by farm type. However, comparisons can be made between farm type and the amount of agrichemical collected. Table 4 and Table 5 and Figure 3 illustrate the difference. It was seen that a much larger amount (median and mean) of agrichemical and also a much larger amount of POPs were collected from drystock farms.

Table 4: Summary of the collection results for dairy farms

	Local (kg)	Intractable (kg)	Total (kg)	POPs (kg)
Total	51.05 (47%)	57.85 (53%)	108.90	4.00 (4.7%)
Mean	5.67	6.43	12.10	0.44
Median	2.3	5.1	8.8	0.0

Table 5: Summary of the collection results for drystock farms

	Local	Intractable	Total	POPs
Total	930.98 (24%)	2871.33 (76%)	3802.31	158.20 (4%)
Mean	8.87	27.52	36.21	1.51
Median	2.4	10.7	17.5	0.0

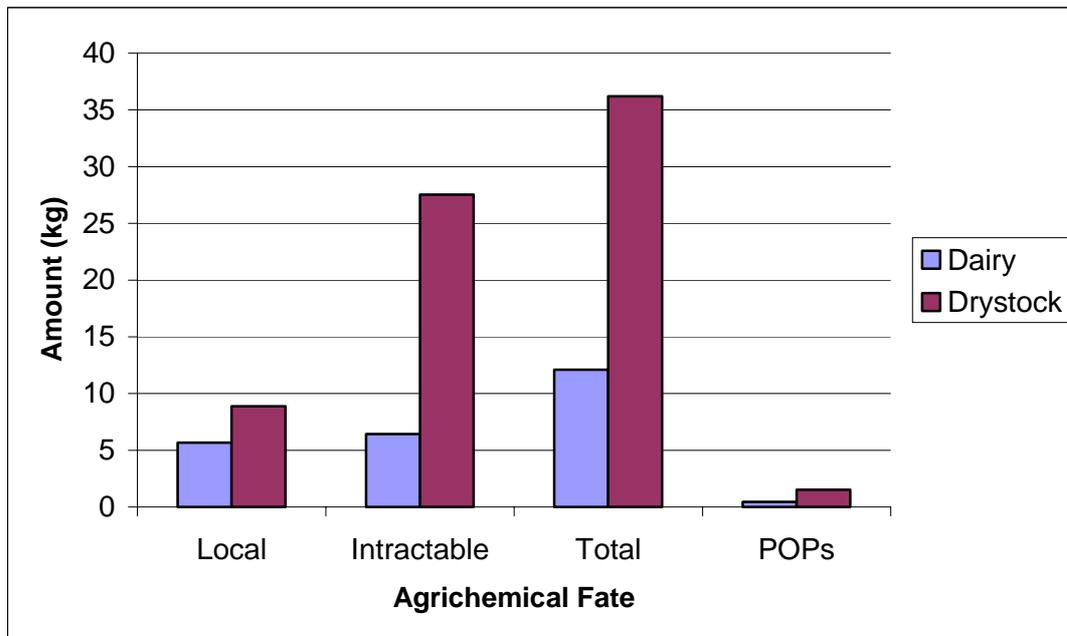


Figure 3: Comparisons of the agrichemical averages by landuse

Although a large amount of agrichemical was collected, and a high response rate obtained, there is still no guarantee that what was collected was all the obsolete⁵ and legacy⁶ agrichemicals that remain in the district. It is assumed that short of inspecting every property, there will always be a problem in terms of not knowing exactly what is left uncollected.

The reasons for the 22 failed collections were primarily due to miscommunications between Environment Waikato and the farmer/grower, or between the contractor and the farmer/grower. These problems could be mitigated or avoided by keeping better records and double checking information with the farmers/growers. The problems that the contractor faced during the collection (e.g. waiting for farmers/growers, farmers/growers not turning up etc.) are more likely to be overcome, given it is assumed that these problems will continue to occur in future collections. The annoyance with the collection not including empty agrichemical containers may be resolved with linking future unwanted agrichemical collections in with the newly initiated 'Agrecovery' programme for recycling agrichemical containers. The Agrecovery programme could be mentioned in the contact letter for any future collections.

The contractor reported unsuccessful collections and problems that were encountered during collections. Reasons for failed collection included:

- Registered farmers/growers having no agrichemicals at the time of collection
- Farmers/growers failing to show up for collection
- Farmers/growers forgetting to leave agrichemicals out
- One farmer said they did not even register for the collection, and
- Farmers/growers having chemical that could not be collected, for example swimming pool chemicals and petrol.

Problems encountered during the collections included:

- The address that was given to the contractor was not accurate
- Having to wait for farmers/growers to arrive
- Visiting properties more than once to try and meet farmers/growers

⁵ Obsolete agrichemicals, distinct from legacy agrichemicals, are currently registered agrichemicals that are no longer wanted or required by farmers/growers and include chemicals that have recently passed their used-by date.

⁶ Legacy agrichemicals, distinct from obsolete agrichemicals, are agrichemicals that have been kept by farmers/growers after becoming a banned or deregistered. Legacy agrichemicals may have been inherited from the previous land owner/occupier and/or accumulated by the current farmer/grower.

- Farmers/growers becoming annoyed because the collection did not include taking empty agrichemical containers.

5.3 Cost

The costs of an agrichemical collection are split. Environment Waikato covers the cost of running the collection and the Ministry for the Environment covers the cost of agrichemical disposal. The amount spent by the Ministry for the Environment for the disposal of the 4545kg of agrichemical collected is unknown. However, using an estimated disposal cost figure of \$10 per kg, the Ministry for the Environment spent about \$45,000 on disposal of the Waitomo agrichemical. The amount spent by Environment Waikato can be estimated from analysis of the relevant charge code. Table 6 summarises the majority of the costs to Environment Waikato: employee time, the cost of the letter and the cost of the contractor collecting the chemical. Other costs are not as easy to calculate, most notably the cost of phone call tolls. These are difficult to calculate because at Environment Waikato they are not attributable to an individual charge code.

Table 6: Summary of the costs of the Waitomo Collection

Attribute	Cost
Project manager time	\$16,729
GIS staff time	\$1,643
Communications staff time	\$1,037
Other labour time	\$11,939
Letter printing, envelopes and postage	\$511
Collection contractor services	\$37,020
TOTAL	\$68,879

The collection cost was approximately \$69,000. There are four ways of interpreting this cost; these are outlined in Table 7.

Table 7: Cost per unit collected

Attribute	Quantity	Approximate cost per attribute
Farmers/growers participating	130	\$530
Farmers/growers targeted	638	\$108
Kg of chemical	4545.1	\$15
Kg of POP	265.2	\$260

Table 7 shows that when assessed per farmer/grower participating or per kg of POP the collection cost was very high at \$530 and \$260, respectively.

This project involved a large amount of planning and management prior to the actual collection taking place. It is assumed that the cost for a subsequent collection of similar scale in another district will be considerably lower than \$69,000. This is because the majority of the groundwork (i.e. letter drafting, procedure setting) will have already been completed. Most notably, the GIS staff time will be lower because the GIS procedure is now established and the communications staff time will be lower because a template letter now exists. The 'Other' labour component will also be lower for any subsequent collection as the Waitomo collection included considerable time employing and organising a new employee to manage the collection.

6 Recommendations

While it is anticipated that future collections of unwanted agrichemicals will be based around the procedures outlined in this report, the author makes the following recommendations for the improvement of these processes:

- Ensure good communication between Environment Waikato and the registered farmers/growers and that accurate records are taken
- Confirm the location of a property and record this on a map
- Call only in the evenings, and use more than one caller
- Contact the farmers/growers post-collection to inquire about any problems encountered or suggestions they may have
- Keep as much of the data on the spread sheet as possible
- Sort spread sheet entries by post code to find people who live away from their property
- Record how each person was contacted
- Obtain and record the land use type
- Require the farmer/grower to take quantities lower than 40kg (or some other pre-determined limit) to a transfer station collection depot.

7 Conclusion

The project was a success in terms of optimising the use of the budget and collecting from a higher than expected proportion of the farmers/growers in the target area. A low proportion of POPs was collected, which suggests two possible conclusions: either the legacy of POPs is small, or farmers/growers are not willing to surrender the POPs they have.

A total of 4545kg of unwanted agrichemicals was collected from 130 properties. Of this total, 25% was suitable for disposal in New Zealand and 75% was identified as intractable, for disposal off-shore. POPs were collected from 14% of properties collected from with a total volume of 265kg (6% of total volume of agrichemicals collected).

Overall, the collection was a success: the estimated amount to be collected was accurate, a large amount of agrichemical was collected and the project finished under-budget. However, because the amount of POPs collected was low, questions have arisen regarding the efficiency of the project to collect POPs. The project would have been more successful if more agrichemical was received, and even more so if a higher proportion of POPs were collected. There is, also, always a problem of not knowing exactly how much legacy and obsolete agrichemicals remain uncollected in the rural environment.

Appendix 1 – Farmers/growers letter

File No: 22 02 65A
Document No: 1137066
Enquiries to: William Gauntlett

3 January 2007

«OCCUP1_FIRST_NAME» «OCCUP1_SURNAME»
«OCCUP2_FIRST_NAME» «OCCUP2_SURNAME»
«OCCUP1_ADDR1»
«OCCUP1_ADDR2»
«OCCUP1_ADDR3»
«OCCUP1_ADDR4» «OCCUP1_POSTAL_CODE»

Dear «FRIST_NAME1» «AND» «FIRST_NAME2»

FREE COLLECTION OF OLD, UNUSED OR UNWANTED AGRICHEMICALS!

This February you, and other farmers in the Waitomo district, can get your old, unused or unwanted agrichemicals collected from your farm – for free!

Organised by Environment Waikato and the Ministry for the Environment, this collection is supported by Federated Farmers, Fonterra and the Waikato Pesticide Awareness Committee (WaiPAC).

“Many farms have agrichemicals that have passed their ‘use by’ date, are no longer registered for use, or are no longer required due to changes in the farming operation. We therefore support Environment Waikato and the Ministry for the Environment’s initiative to provide a free service to dispose of agrichemicals in a way that does not risk the contamination of our farms and environment.”

Waikato Federated Farmers President Peter Buckley

We can collect: <ul style="list-style-type: none">• pesticides• herbicides• insecticides• fungicides• animal remedies/veterinary medicines• PCBs (for example, old transformers, capacitors and switch gear).	We can't collect: <ul style="list-style-type: none">• detergents or disinfectants• dairy shed cleaners• sharp objects• asbestos• used oil or paint• batteries or explosives• empty containers.
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In particular, we're interested in collecting the more persistent chemicals, such as DDT, dieldrin, lindane, chlordane, 245-T, arsenic sprays and sheep dips.

These chemicals are toxic to people and animals. They can remain in the environment for a long time and accumulate in the fatty tissue of living organisms. The residue can also appear in farm produce.

As a signatory to the Stockholm Convention, New Zealand has agreed to stop using these types of chemicals. This means farmers can no longer use these chemicals and are required to safely dispose of them.

Although we can't collect all items, the contractor can give you advice on future storage, use and disposal of hazardous materials and empty agrichemical containers.

Confidentiality

Transport regulations require the contractor to record the type and amount of agrichemicals collected. However, Environment Waikato will not keep records of the amount or types of agrichemicals collected from your farm. Further to this, no individual farmers participating in this collection will be identified in any files, records or reports.

Registering your agrichemicals for collection

To participate in this collection, you must **register** on or before **Friday, 19 January**.

Registering is as simple as checking your farm for chemicals and then filling out the form provided. We'll then arrange for a licensed contractor to pick them up from your farm.

Once you've completed the form, post it to us in the attached freepost envelope or fax it to 07 859 0998. Alternatively, email william.gauntlett@ew.govt.nz, or call Environment Waikato's Freephone 0800 800 401 and ask for William Gauntlett.

The next steps

- Ensure the chemicals are stored safely until they can be collected by the contractor.
- To avoid spills, try not to move chemicals stored in insecure containers.
- For any advice call us, or refer to www.ew.govt.nz/enviroinfo/hscs/hazsubs/index.htm.
- If you know what's in a container that's lost its label, please label it.
- The contractor will collect your chemicals in **February 2007**. He will contact you two or three days before collection to tell you what day he'll be at your farm.
- In case you're unavailable when the contractor comes, please tell someone else on the farm where the chemicals are.

If you have any concerns, or need more information, please call us.

Yours faithfully



Chris McLay
Group Manager, Resource Use

This collection is supported by:



Appendix 2 – Registration form

Registration form for collection of old, unused or unwanted agrichemicals

Please tick the appropriate box and complete the details below.

- Yes, I have old, unused or unwanted agrichemicals you can collect.
- No, I don't have any old, unused or unwanted agrichemicals for you to collect.
- No, I am not interested in this collection.

Name: _____

Physical address: _____

Phone number: _____ Mobile number: _____

The quantity of agrichemicals (try to be accurate): _____ (kgs/litres)

The types of chemicals you have: _____

The quality of the containers/packaging: _____

Comments: _____

Please return this form on or before Friday, 19 January 2007.

Post this form back to us in the attached freepost envelope or fax it to (07) 859 0998.
Alternatively, email william.gauntlett@ew.govt.nz or call Environment Waikato's Freephone
0800 800 401 and ask for William Gauntlett.

This collection is supported by:



Appendix 3 – Absentee landowners letter

File No: 22 02 65A
Document No: 1266327
Enquiries to: William Gauntlett

3 January 2007

«OCCUP1_FIRST_NAME» «OCCUP1_SURNAME»
«OCCUP2_FIRST_NAME» «OCCUP2_SURNAME»
«OCCUP1_ADDR1»
«OCCUP1_ADDR2»
«OCCUP1_ADDR3»
«OCCUP1_ADDR4»

Dear «FRIST_NAME1» «AND» «FIRST_NAME2»

Our records show you are in charge of a farm in the Waitomo district. As your postal address doesn't match the farm location, we understand there is a chance you may not be running the farm. If this is the case, can you please forward this letter to the relevant person.

FREE COLLECTION OF OLD, UNUSED OR UNWANTED AGRICHEMICALS!

This February you, and other farmers in the Waitomo district, can get your old, unused or unwanted agrichemicals collected from your farm – for free!

Organised by Environment Waikato and the Ministry for the Environment, this collection is supported by Federated Farmers, Fonterra and the Waikato Pesticide Awareness Committee (WaiPAC).

“Many farms have agrichemicals that have passed their ‘use by’ date, are no longer registered for use, or are no longer required due to changes in the farming operation. We therefore support Environment Waikato and the Ministry for the Environment’s initiative to provide a free service to dispose of agrichemicals in a way that does not risk the contamination of our farms and environment.”

Waikato Federated Farmers President Peter Buckley

We can collect:	We can't collect:
<ul style="list-style-type: none">• pesticides• herbicides• insecticides• fungicides• animal remedies/veterinary medicines• PCBs (for example, old transformers, capacitors and switch gear).	<ul style="list-style-type: none">• detergents or disinfectants• dairy shed cleaners• sharp objects• asbestos• used oil or paint• batteries or explosives• empty containers.

In particular, we're interested in collecting the more persistent chemicals, such as DDT, dieldrin, lindane, chlordane, 245-T, arsenic sprays and sheep dips. These chemicals are toxic to people and animals. They can remain in the environment for a long time and accumulate in the fatty tissue of living organisms. The residue can also appear in farm produce.

As a signatory to the Stockholm Convention, New Zealand has agreed to stop using these types of chemicals. This means farmers can no longer use these chemicals and are required to safely dispose of them. Although we can't collect all items, the contractor can give you advice on future storage, use and disposal of hazardous materials and empty agrichemical containers.

Confidentiality

Transport regulations require the contractor to record the type and amount of agrichemicals collected. However, Environment Waikato will not keep records of the amount or types of agrichemicals collected from your farm. Further to this, no individual farmers participating in this collection will be identified in any files, records or reports.

Registering your agrichemicals for collection

To participate in this collection, you must **register** on or before **Friday, 19 January**.

Registering is as simple as checking your farm for chemicals and then filling out the form provided. We'll then arrange for a licensed contractor to pick them up from your farm.

Once you've completed the form, post it to us in the attached freepost envelope or fax it to 07 859 0998. Alternatively, email william.gauntlett@ew.govt.nz, or call Environment Waikato's Freephone 0800 800 401 and ask for William Gauntlett.

The next steps

- Ensure the chemicals are stored safely until they can be collected by the contractor.
- To avoid spills, try not to move chemicals stored in insecure containers.
- For any advice call us, or refer to www.ew.govt.nz/enviroinfo/hscs/hazsubs/index.htm.
- If you know what's in a container that's lost its label, please label it.
- The contractor will collect your chemicals in **February 2007**. He will contact you two or three days before collection to tell you what day he'll be at your farm.
- In case you're unavailable when the contractor comes, please tell someone else on the farm where the chemicals are.

If you have any concerns, or need more information, please call us.

Yours faithfully



Chris McLay
Group Manager, Resource Use

This collection is supported by:



Appendix 4 – C/O accountants/solicitors cover letter

File No: 22 02 65A
Document No: 1176543

3 January 2007

«OCCUP1_FIRST_NAME» «OCCUP1_SURNAME»
«OCCUP2_FIRST_NAME» «OCCUP2_SURNAME»
«OCCUP1_ADDR1»
«OCCUP1_ADDR2»
«OCCUP1_ADDR3»
«OCCUP1_ADDR4» «OCCUP1_POSTAL_CODE»

Dear Sir/Madam

Please forward to landowners

Environment Waikato is in the process of undertaking an unwanted agrichemical collection in the Waitomo district. The collection process involves sending a letter to all landowners in the area. We retrieve our address information from the *Rates Database* and, as a result, some of the landowners on our list have their address 'care of' their accountant or solicitor.

It would be appreciated if you could please forward the enclosed letter to the relevant landowner.

Thank you very much.

Yours faithfully

William Gauntlett
Environmental Education

Appendix 5 – Iwi notification letter

File No: 22.02.65A
Document No: 1138190
Enquiries to: William Gauntlett

3 January 2007

Vance Winiata
Maniapoto Maori Trust Board
Level 1, NZ Post Building
PO Box 36
123 Rora Street
TE KUITI 2500

Dear Vance

Notification of Agrichemical Collection

Environment Waikato, in association with the Ministry for the Environment, is undertaking a collection of unwanted agrichemicals in the Waitomo district. The collection will be targeting some quite specific types of chemicals, persistent organic pollutants (POPs), although all unwanted agricultural herbicides and pesticides will be collected. POPs are chemicals that remain in the environment for long periods, accumulate in the fatty tissue of living organisms and are toxic to humans as well as livestock.

In the past, these hazardous 'POP' chemicals have been used on farms to control pests and weeds - examples include DDT and dieldrin. Surplus chemicals have often remained in farm sheds although some have been deregistered for over 15 years.

As a signatory to the Stockholm Convention, New Zealand must stop releasing chemicals that contain POPs. This means landowners can no longer use chemicals containing POPs and are required to safely dispose of them. Handling POPs can be dangerous and disposal is expensive, that's why we've organised this free collection.

The collection will occur between 7 February and 2 March, 2007. Initially farmers will be contacted both by mail and phone in January, followed by the collection of chemicals in February. An experienced independent contractor will visit the farms, which have registered, to collect their chemicals.

The collection is going to be confidential in that Environment Waikato will not keep records of the amount or types of chemicals collected from individual farms. Transport regulations, however, require the contractor to record the type and amount of chemicals collected.

The project has the endorsement of Federated Farmers, Fonterra and WaiPAC (Waikato Pesticides Awareness Committee).

If you have any queries about the project, please don't hesitate to call.

William Gauntlett
Resource Use Group, Environment Waikato

Appendix 6 – TLA notification letter

File No: 22 02 65A
Document No: 1138188
Enquiries to: William Gauntlett

3 January 2007

Paul Strange
Waitomo District Council
P.O. Box 404
Te Kuiti

Dear Paul

Notification of Agrichemical Collection

Environment Waikato, in association with the Ministry for the Environment, is undertaking a collection of unwanted agrichemicals in the Waitomo district. The collection will be targeting some quite specific types of chemicals, persistent organic pollutants (POPs), although all unwanted agricultural herbicides and pesticides will be collected. POPs are chemicals that remain in the environment for long periods, accumulate in the fatty tissue of living organisms and are toxic to humans as well as livestock.

In the past, these hazardous 'POP' chemicals have been used on farms to control pests and weeds - examples include DDT and dieldrin. Surplus chemicals have often remained in farm sheds although some have been deregistered for over 15 years.

As a signatory to the Stockholm Convention, New Zealand must stop releasing chemicals that contain POPs. This means landowners can no longer use chemicals containing POPs and are required to safely dispose of them. Handling POPs can be dangerous and disposal is expensive, that's why we've organised this free collection.

The collection will occur between 7 February and 2 March, 2007. Initially farmers will be contacted both by mail and phone in January, followed by the collection of chemicals in February. An experienced independent contractor will visit the farms, which have registered, to collect their chemicals.

The collection is going to be confidential in that Environment Waikato will not keep records of the amount or types of chemicals collected from individual farms. Transport regulations, however, require the contractor to record the type and amount of chemicals collected.

The project has the endorsement of Federated Farmers, Fonterra and WaiPAC (Waikato Pesticides Awareness Committee).

Please note that this collection is complementary to the partnership Environment Waikato has with your District for the reception of unwanted agrichemicals at its transfer station.

If you have any queries about the project, please don't hesitate to call.

William Gauntlett
Resource Use Group, Environment Waikato

Appendix 7 – All staff notification email

File No: 22.02.65A
Document No: 1134015

5 January 2007

All Staff,

Internal notification of Agrichemical Collection.

This is an internal notification letter, to all staff, letting you know about the Agrichemical Collection we are undertaking. If you have any questions about it, don't hesitate to call, and at the same time, if you get any queries from the public, please forward them to me.

Environment Waikato, in association with the Ministry for the Environment, is undertaking a collection of unwanted agrichemicals in the Waitomo district. The collection will be targeting some quite specific types of chemicals, persistent organic pollutants (POPs), although all unwanted agricultural herbicides and pesticides will be collected. POPs are chemicals that remain in the environment for long periods, accumulate in the fatty tissue of living organisms and are toxic to humans as well as livestock.

In the past, these hazardous 'POP' chemicals have been used on farms to control pests and weeds - examples include DDT and dieldrin. Surplus chemicals have often remained in farm sheds although some have been deregistered for over 15 years.

As a signatory to the Stockholm Convention, New Zealand must stop releasing chemicals that contain POPs. This means landowners can no longer use chemicals containing POPs and are required to safely dispose of them. Handling POPs can be dangerous and disposal is expensive, that's why we've organised this free collection.

The collection will occur between 7 February and 2 March, 2007. Initially farmers will be contacted both by mail and phone in January, followed by the collection of chemicals in February. An experienced independent contractor will visit the farms, which have registered, to collect their chemicals.

The collection is going to be confidential in that Environment Waikato will not keep records of the amount or types of chemicals collected from individual farms. Transport regulations, however, require the contractor to record the type and amount of chemicals collected.

The project has the endorsement of Federated Farmers, Fonterra and WaiPAC (Waikato Pesticides Awareness Committee).

Cheers,

William Gauntlett
Resource Use Group

Appendix 8 – Phone prompt

“Hello, it’s **[Name]** from Environment Waikato speaking. How are you..?”

“...We are undertaking a free collection of unused or unwanted agrichemicals in your area. We send out a letter about a week ago and I was wondering if you received the letter that we sent out inviting you to participate in the collection?”

or

“Just over a week ago we sent out a letter regarding a free agrichemical collection in the Waitomo District. I was wondering if you got the letter?”

Yes **Go to A1**

No **Go to A2**

Y/N **Go to A2**

A1 – Yes received letter:

Q1 “Was the letter self explanatory?”

Yes **Go to Q2**

No **Go to A2 (Did not receive)**

Y/N “Would you like me to give you a quick overview of the collection program?”

Yes **go to A2**

No **go to Q2**

Q2 “Do you have any herbicides, insecticides, fungicides especially POPs, that you no longer use, anywhere on your farm?”

Yes **Go to Q3**

No “...How about I give you some time to think about it / check around the farm and call you back in a couple of days?”

Yes “...Great, how about I call you back on **[suggest date]**.”
[Record the follow-up date in spreadsheet].

No “...I’m sorry that the collection doesn’t help you. If, in the future, you have any unwanted chemicals that you are not sure what to do with, get in contact with Environment Waikato and we can give you details on how to get rid of them. **Thank you for your time.**”

Q3 “Do you think you would like to participate in the collection program?”

Yes **[Take details on spreadsheet]**

- “...Can you give me an idea of the chemicals you have for collection?”
- “...Can you give me an estimate of the quantity of chemicals you want collected?”
- “...Can you give me an idea of the quality of the containers they are in?”
- “...The collection will occur sometime in February, our contractor Ray McGregor will contact you a couple of days before he is to come out..”
- [If there are multiple farms listed under this name] “...there seems to be multiple properties listed under your name, I was wondering if there is someone else living on or managing these properties...”
Yes – “...could I get their details from you please?”
- **ADDRESS;**
 - **If we *only* have Postal address;** “It looks like we’ve only got your postal address on file, as [read address off spreadsheet] -

could you please tell me the location address of your property?

[Take details on spreadsheet]

o **If we have Actual address;** "...We've got your address down as [read address off spreadsheet], is this correct?"

[Change data if required].

- "...Thank you for registering. If you have any changes to the information you have given me, or any questions, please don't hesitate to give me a call on 0800 800 401."

No "...Would you be able to tell me the reasons why you don't want to use this service?"

Yes **[Take details on spreadsheet]**

No "...I'm sorry that the collection doesn't help you. If, in the future, you have any unwanted chemicals that you are not sure what to do with, get in contact with Environment Waikato or the Ministry for the Environment, and we can give you details on how to get rid of them. **Thank you for your time.**"

A2 - No did not receive letter:

Brief explanation -

- "...Environment Waikato and the Ministry for the Environment are offering a **FREE** service in your area to arrange the collection of unused or unwanted agricultural chemicals, particularly Persistent Organic Pollutants or "POPs".
- POPs are chemicals that remain in the environment for long periods, accumulate in the fatty tissue of living organisms and are toxic to humans as well as livestock.
- In the past, these hazardous chemicals have been used on farms to control pests and weeds - examples include DDT and dieldrin. Surplus products have often been stored for later use, so, although some have been deregistered for over 15 years, there's a chance you may still have some old stocks of them in your shed.

What is being offered -

- A **FREE** agrichemical collection,
- The pick up of agrichemicals from your farm,
- The service is Confidential.
- The collection is in February 2007.

Why should you take up the offer -

- **FREE** service from Environment Waikato (as opposed to the usual method of having paying for depositing the chemicals or getting them collected)
- Convenient – chemicals are collected from your farm – limited handling needed by you, no need to drop them off at a specific site.
- Take advantage while you can. This service is planned as a one-off. It may not be offered freely again.
- Agrichemicals are unsafe, dangerous to human health (you and your family; especially children).
- Agrichemicals are dangerous to your environment.
- Agrichemicals are dangerous to the health of your livestock, and residues may appear in farm produce.

Endorsements -

- The collection has received the endorsement and support from; Waikato Federated Farmers, Fonterra and WaiPAC"

Go to Q2

Appendix 9 – Materials collected

Active ingredient	Volume (kg)	Active ingredient	Volume (kg)	Active ingredient	Volume (kg)
245t	672.5	surfactant	16.7	captan	3.2
Unknown	408.7	diquat	14.9	diphenalamine	3.1
ddt	196.8	bromophos	14.5	parbendazole	3.1
mcpa	185.6	dieldren	13.2	picloram	3
atrazine	161	4cpa	12.5	alachlor	2.8
zinc	140.8	oxfendazole	11.7	pirimiphos methyl	2.6
levamisole	118.1	febantel	11.4	carbendazim	2.4
paraquat	102.2	fenitrothion	11.2	maneb	2.4
mcpb	97.3	fenvelarate	11.1	phosmet	2.2
acetachlor	80.1	chlorothalonil	10.9	pyridine sulphate	2.2
asulam	79.1	mineral oil	10.6	mancozeb	2.1
sodium chlorate	66.9	ethofumesate	10.1	abamectin	2
cypermethrin	63	triclabendazole	9.4	quintazene	2
tebuthylazine	61.8	thiabendazole	9.2	carbofenthoion	1.8
diazinon	60	carbaryl	9	dichlobenil	1.8
fosamine	54.7	niclosamide	8.9	eprinomectin	1.8
pcb	53.7	brodifacoum	8.8	quizlyfop-ethyl	1.8
phorate	52.1	sulphur	8.6	benomyl	1.6
diflabenduron	51.6	captan/ridomil	8.5	lamdacyhalothrin	1.5
formaldehyde	50.6	dalapon	7.9	quaternary	
arsenic	49.2	sodium cyanide	7	ammonia	1.5
rycobendazole	43.5	nitofen	6.5	haloxyfop	1.3
selenium	39.2	cyhalothrin	6.2	metsulfuron	1.3
deltamethrin	35.6	permethrin	5.9	fluizifop-butyl	1.1
pcp	33.4	hexazinone	5.7	chlopyralid	1
amitrole	33.3	trichlorfon	5.5	aldrin	0.9
cyromazine	33	ivermectin	5.1	oxyflurofen	0.9
simazine	32.4	copper hydroxide	5	copper oxychloride	0.8
propetamphos	28.2	rafoxanide	4.8	pirimicarb	0.8
thiophanate methyl	24.8	calcium		chlordan	0.6
glyphosate	24.3	polysulphides	4.7	dimethoate	0.6
sodium hypochlorite	23.5	chlorfenvinfos	4.7	haloxyfop-ethyl	0.5
triclopyr	23.4	clopyralid	4.6	PMC	0.5
calcium		prolate	4.6	propagite	0.5
boragluconate	21.4	closantel	4.4	dichlorfen	0.4
temephos	21.2	nicotine sulphate	4.4	phosphorus	0.4
coumaphos	20.1	bentazone	4.3	copper	0.2
fanphur	20	malathion	4.1	doramectin	0.2
lindane	19.6	fenthion	3.8	triforine	0.2
rotenone	18.6	dichlorvos	3.6	pyrethrum	0.1
dicamba	18	triflumuron	3.5	streptomycin	0.1
chlorpyrifos	17.6	dithianon	3.3		
tba	17.3	phosalone	3.3	TOTAL	4545.1