Environment Protection and Heritage Council

Final Report of the National ChemCollect Program

ChemCollect…
cleaning up the farm

EPHC

Note

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TABLE OF CONTENTS

Glossary **1**
Executive Summary **2**
1 Background **4**
1.1 Safe handling 5
1.2 ChemClear® 5
1.3 Industry Waste Reduction Scheme 5
2 National Summary **6**
2.1 Methodology and Communication Strategies 7
2.2 Collection 7
2.3 Storage and Disposal 8
3 State and Territory Reports **8**
3.1 New South Wales 8
3.2 Northern Territory 11
3.3 Queensland 13
3.4 South Australia 17
3.5 Tasmania 20
3.6 Victoria 22
3.7 Western Australia 24
4 Summary **27**
Appendix A: Total chemicals collected in the State and Territory Regions **29**
Appendix B: Queensland Communication Plan **34**
Appendix C: Detailed Methodology for Collection and Disposal for Western Australia **41**
Appendix D: Contacts **44**

FIGURES AND TABLES

Figure 1: Percentage of chemicals collected classified by chemical class across the states and the Northern Territory 6
Figure 2: Proportion of chemicals collected across the states and the Northern Territory 7
Figure 3: Chemicals collection in each chemical class (New South Wales) 10
Figure 4: Chemicals collected by chemical description (Northern Territory) 13
Figure 5: Chemicals collected in each chemical class (Queensland) 16
Figure 6: Chemicals collected in each chemical class (South Australia) 19
Figure 7: Chemicals collected in each chemical class (Tasmania) 21
Figure 8: Chemicals collected in each chemical class (Victoria) 23
Figure 9: Chemicals collected in each chemical class (Western Australia) 26
Figure A 1: Tonnes of chemicals collected in the five stages (New South Wales) 29
Figure A 2: Tonnes of chemicals collected in Northern Territory regions 30
Figure A 3: Tonnes of chemicals collected in Queensland regions 31
Figure A 4: Tonnes of chemicals collected in South Australian regions 32
Figure A 5: Tonnes of chemicals collected in Victorian regions 33

Table 1: Chemicals collected across the states and the Northern Territory 6
Table 2: Regional collection timetable (New South Wales) 9
Table 3: Chemicals collected in each chemical class (New South Wales) 10
Table 4: Regional collection timetable (Northern Territory) 11
Table 5: Regional collection timetable (Queensland) 14
Table 6: Chemicals collected in each chemical class (Queensland) 15
Table 7: Regional collection timetable (South Australia) 18
Table 8: Chemicals collected in each chemical class (South Australia) 19
Table 9: Regional collection timetable (Tasmania) 20
Table 10: Chemicals collected in each chemical class (Tasmania) 21
Table 11: Regional collection timetable (Victoria) 22
Table 12: Chemicals collected in each chemical class (Victoria) 23
Table 13: Chemicals collected in each chemical class (Western Australia) 26
Table A 1: Tonnes of chemicals collected in New South Wales regions 29
Table A 2: Tonnes of chemicals collected in Northern Territory regions 30
Table A 3: Tonnes of chemicals collected in Queensland regions 31
Table A 4: Tonnes of chemicals collected in South Australian regions 32
Table A 5: Tonnes of chemicals collected in Victorian regions 33

GLOSSARY

AgWA	Department of Agriculture (WA)
ANZECC	Australian and New Zealand Environment and Conservation Council
AVCARE	National Association for Crop Production and Animal Health
CSAP	ChemCollect Stakeholder Advisory Panel
DDT	Dichloro-diphenyl-trichloroethane
DEH	Department of the Environment and Heritage
DPIWE	Department of Primary Industries, Water and Environment (Tasmania)
EPA	Environment Protection Agency/Authority
EPHC	Environment Protection and Heritage Council
IWRS	Industry Waste Reduction Scheme
NFF	National Farmers' Federation
PCB	Polychlorinated biphenyl
OCP	Organochlorine pesticide
VMDA	Veterinary Manufacturers and Distributors Association
WA DEP	Department of Environmental Protection (WA)
WA DOE	Department of Environment (WA)
WSN	Waste Service NSW

Some of the chemicals collected under the program

EXECUTIVE SUMMARY

ChemCollect was a nationally coordinated scheme for the collection and safe disposal of unwanted and deregistered agricultural and veterinary chemicals from farms during the period 1999 to December 2002. These types of chemicals, particularly the persistent organochlorine pesticides (OCPs), pose a risk to the environment, human health and agricultural produce markets. The ChemCollect Program was coordinated on a national basis by the Department of the Environment and Heritage (DEH) and implemented by each state and territory agency (the Australian Capital Territory did not participate in the program, as it had run a similar collection program a few years earlier). The program was funded up to $27 million with each state and the Northern Territory providing half the funding for its collections and the Australian Government providing matching funding up to a maximum total of $13.5 million.

Stakeholder advisory panels were established in each state and the NT with representation from industry, farmers, community groups and local government sectors. The role of the advisory panels was to determine the appropriate locations and schedules for the collection of chemicals. This was to help ensure that farmers were provided with the greatest opportunity to clear their properties of unwanted and deregistered chemicals. Practical advice was also given to farmers on the safe storage and handling of unwanted and deregistered hazardous farm chemicals prior to the collection of chemicals.

ChemCollect was run in stages on an area-by-area basis. In most states, professional licensed contractors were employed to collect, store, transport, treat, and dispose of the chemicals collected under the program. Contractors set up temporary collection sites at pre-determined locations in each region and farmers were able to bring their chemicals to those sites.

Effective communication strategies were employed to inform farmers of the program. Information mediums included direct mail, newspaper articles and advertisements, radio interviews, posters, drink coasters, stubby holders and community television announcements. Most states also had a freecall 1800 number, through which farmers and the general community could obtain further information. The communication methods used demonstrated a high level of initiative on behalf of the states and the NT.

Approximately 16,728[1] farmers around Australia took advantage of this one-off offer to rid their properties of agricultural and veterinary chemicals, particularly the more persistent, deregistered chemicals such as pentachlorophenol, dichloro-diphenyl-trichloroethane (DDT), dieldrin and chlordane. By the completion of the program, approximately 1670 tonnes of unwanted chemicals were recovered from rural areas and market gardens. The chemicals collected fell into the following five categories[2] :

- OCPs – 139.21 tonnes
- organophosphates – 342.31 tonnes
- arsenic pesticides – 107.54 tonnes
- other pesticides – 718 tonnes
- other chemicals –369.68 tonnes[3]

It is believed that the bulk of deregistered chemicals present on farms at the time were collected during the ChemCollect Program, reducing the risk to the environment, the community and to agricultural products.

[1] The figure does not include NT and Tasmanian participants.
[2] The amounts in these categories are subject to change as the states continue to test chemicals collected for destruction.
[3] The figure includes the total waste collected in the NT (8.47) and excludes the waste oil collected in South Australia (367 tonnes).

The majority of chemicals collected under the program have since been reused or destroyed. However, due to the closure of two facilities in Australia which destroyed organochlorine waste, there are still some OCPs awaiting destruction. The Environment Protection and Heritage Council (EPHC) Hazardous Waste Working Group and the states are monitoring the destruction of these chemicals. The states are confident that the chemicals will be destroyed over the next one to three years.

The ChemCollect Program was a successful initiative and a great example of government, industry and the community working together to achieve an excellent outcome.

Governments agreed to fund ChemCollect on the basis that they will never need to undertake such a collection a second time. Building on the achievements of ChemCollect, ChemClear is the industry-driven initiative that aims to provide farmers with a disposal service for unwanted registered agricultural and veterinary chemicals. The program has been developed by the National Association for Crop Production and Animal Health (Avcare), the Veterinary Manufacturers and Distributors Association (VMDA), the National Farmers' Federation (NFF) and Agsafe. ChemClear undertook its first pilot program in December 2003 and the aim is to have the full program operational by mid-2004. ChemClear will be a critical element of the industry's environmental performance in product stewardship.

In addition to ChemClear, there is also the current drumMUSTER program, which provides for the collection and recycling of empty chemical containers. Since the program's inception in 1999, drumMUSTER has reached a significant milestone with over four million empty, cleaned chemical drums collected from Australian farms. This equates to over six thousand tonnes of material removed from the waste system and redirected into the Australian recycling stream.

It is through these types of initiatives that farmers are now better informed about the effects of chemicals on productivity, product quality, the environment and local communities. There is a high level of demand from farmers to continue these initiatives and the Australian and state governments are committed to building on the success of such programs in the future.

Examples of some deregistered chemicals that were collected during the program

ChemCollect in action

Contractors at work sorting chemicals

1 BACKGROUND

There are clear environmental, public and occupational health, and international trade reasons why Australia should safely manage and destroy its unwanted stocks of OCPs and other unwanted and deregistered farm and household chemicals[4]. In 1987, the US Government detected OCP residues in Australian beef that had potential impacts for Australian agricultural trade markets. The Australian Government, state and territory governments were keen to retain the good image of Australia's agricultural industries and in addition to collecting unwanted OCPs, this discovery triggered the agricultural sector's determination to clean up potentially hazardous chemicals from farms. Over eight years approximately 1900 tonnes of chemicals were collected of which over 75 per cent were OCPs.

Ten years later, governments conducted a survey to determine to what extent hazardous chemicals had been collected from rural properties. The survey revealed that potentially around 1200 tonnes of unwanted and deregistered agricultural and veterinary chemicals remained on rural properties[5] . It was believed that this amount presented a significant risk to the environment, human health and agricultural produce markets. As a consequence, in 1999 the then Australian and New Zealand Environment and Conservation Council (ANZECC) established the National Collection, Storage and Destruction Scheme for Unwanted Chemicals, known as the "National ChemCollect Program".

The National ChemCollect Program (also known as ChemCollect or the ChemCollect Program) commenced in July 1999 and was funded on a 50/50 basis by the Australian Government and the state and NT governments. The Australian Capital Territory did not participate in the program as it had run a hazardous chemicals collection program a few years before. The Department of the Environment and Heritage (DEH) coordinated the program, and implementation, including the collection, storage and disposal of the chemicals, was the responsibility of the state and territory environment protection agencies.

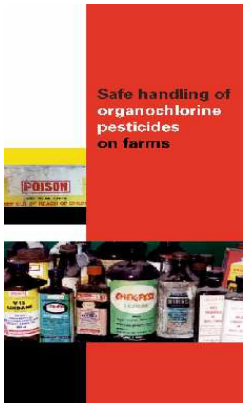
Chemicals targeted by the program included OCPs, DDT, chlordane, dieldrin, aldrin, heptachlor, lindane, hexachlorobenzene and chlorinated phenols, unwanted registered pesticides and other hazardous rural chemicals. Many of these chemicals are no longer in use and no longer supplied to the public; their accumulation on rural properties is due to their use decades ago.

[4] Reference: ANZECC/Agriculture and Resource Management Council of Australia and New Zealand etc (ARMCANZ), *Discussion Paper – Collection and Destruction of Unwanted Farm and Household Chemicals*, June 1997

[5] Reference: K. Kelly (Personal Communication - Environment Protection Group, Environment Australia), based on research by Hatlar Environment Pty Ltd & Don Roberts and Associates Pty Ltd (1997), *Chemical Collection Information Gathering Project*, for Environment Australia, July 1997

The ChemCollect Program formed part of the ANZECC management plan for OCP waste under the National Strategy for the Management of Scheduled Wastes. Scheduled wastes are hazardous wastes that are regarded as intractable, or difficult to safely dispose of, without special technologies and facilities. The management plan for OCPs provides for the safe management and disposal of scheduled OCP wastes once they have been collected.

1.1 SAFE HANDLING



To complement ChemCollect, a brochure was produced providing practical advice to farmers and the general community on the safe storage, transport, and disposal on farms of hazardous chemicals, particularly OCPs. The brochure is still available through DEH and state and territory environment protection agencies and via the DEH web site at http://www.deh.gov.au/industry/chemicals/scheduled-waste/pubs/safe.pdf.

1.2 CHEMCLEAR®

To ensure that stocks of agricultural and veterinary chemicals do not build up again, the agriculture industry agreed to institute the program ChemClear® for the regular, ongoing collection of unwanted registered rural chemicals, which are otherwise non-returnable. ChemClear® is designed to provide a safe and easy collection and disposal service for all chemical users in Australia.

Together with Agsafe, ChemClear® is a joint initiative of Avcare, the VMDA and the NFF. The program is an example of industry's increasing recognition of its 'cradle to grave' stewardship of its products.

1.3 INDUSTRY WASTE REDUCTION SCHEME

ChemCollect and ChemClear® are complemented by the agricultural and veterinary chemical Industry Waste Reduction Scheme (IWRS), which has two objectives:

- to reduce the amount of packaging at the source by encouraging manufacturers to adopt alternative containers such as bulk or refillable packs, new packaging technology such as water soluble sachets, and new formulations such as gel packs and granules; and
- to ensure that non-returnable crop protection and animal health chemical containers have a defined route for disposal that is socially, economically and environmentally acceptable.

In 1999, the national drumMUSTER program commenced with the aim of collecting and recycling empty, cleaned and non-returnable crop protection and animal health chemical containers. The program is managed by Agsafe for the NFF, Avcare, VMDA and the Australian Local Government Association. DrumMUSTER provides an environmentally responsible way of collecting and recycling plastic and metal containers. The program is funded by a levy placed on crop protection and on-farm animal health products sold in non-returnable chemical containers holding more than one kilogram in content. The containers, which are collected, are re-filled, cleaned, recycled or shredded for landfill.

For more information on ChemClear®, including how to register and book chemicals in for collection, please go to www.chemclear.com.au. For drumMUSTER go to www.drummuster.com.au.

2 NATIONAL SUMMARY

Over the life of the ChemCollect Program 1676 tonnes of unwanted and deregistered agricultural and veterinary chemicals were collected from Australian farms. The chemicals collected have been grouped in the following categories:

- OCPs e.g., DDT, dieldrin, endrin
- organophosphates e.g., organophosphorus pesticides
- arsenic pesticides e.g., arsenic trioxide
- other pesticides e.g., strychnine
- other chemicals e.g., household chemicals

The percentage of chemicals collected in the above categories across each state and the NT are represented in Figure 1.

Amounts of most chemicals collected matched those states where there is most agricultural production, such as NSW, Queensland and SA. The Northern Territory as expected, collected the least. The total amounts of chemicals collected in each state and the Northern Territory are provided in Table 1 and Figure 2.

Figure 1: Percentage of chemicals collected classified by chemical class across the states and the Northern Territory

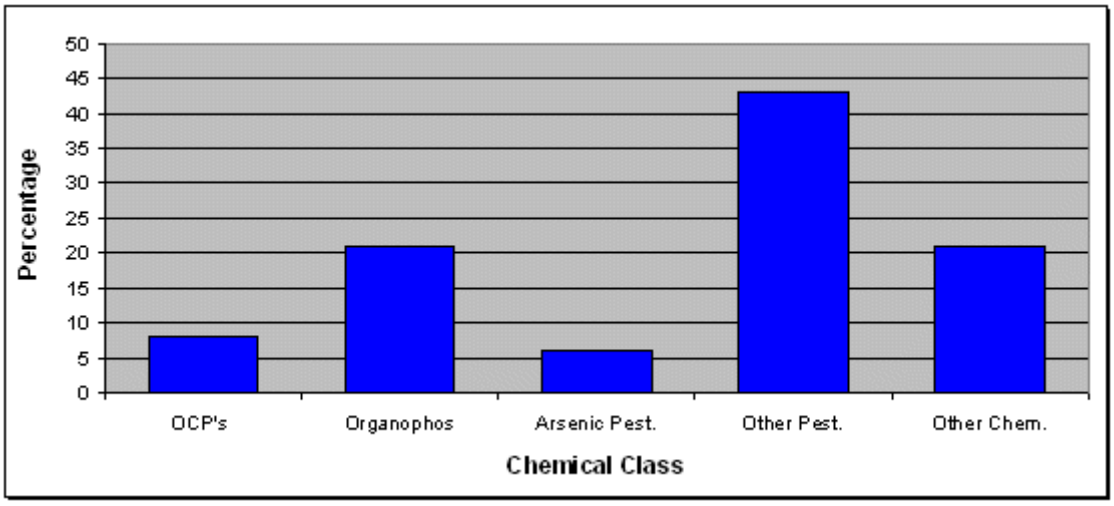
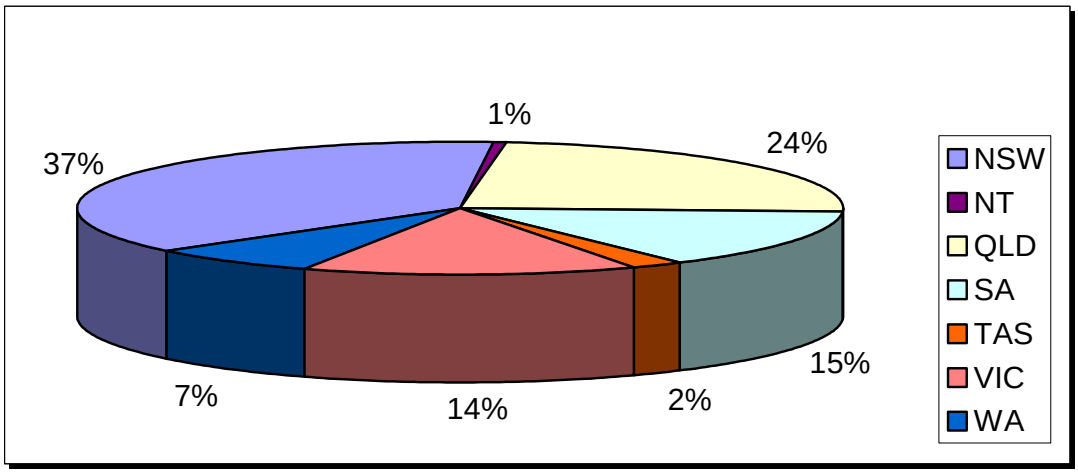


Table 1: Chemicals collected across the states and the Northern Territory

State/territory	Chemicals collected (tonnes)
New South Wales	627.60
Northern Territory	8.47
Queensland	400.30
South Australia	243.30[6]
Tasmania	39.70
Victoria	236.37
Western Australia	121.00
Total	**1676.74**

[6] The SA figure does not include the waste oil collected (367 tonnes).

Figure 2: Proportion of chemicals collected across the states and the Northern Territory



2.1 METHODOLOGY AND COMMUNICATION STRATEGIES

Advisory panels representing a range of stakeholders were established in each state and the NT. Stakeholders represented included farmers associations; local government and shires associations; Avcare; Rural Lands Protection Board; Veterinary Manufacturers and Distributors Association; Waste Management Association of Australia; Toxic Link Network; private farm consultants; and various state government agencies.

To ensure the program met its objectives, the advisory panels addressed a range of issues, including:

- How many collection periods would be needed?
- Where would the collection points be located and how far would farmers be expected to travel?
- How would the ChemCollect message be publicised effectively?
- Who would identify the chemicals collected?
- How would the chemicals be transported from the collection points?
- What risks would be involved?
- What storage facilities would be available?

To promote the program to farmers and the wider community a range of communication methods were used including radio and television announcements, newspaper articles, and posters, presentations and Ministerial media releases. The communication strategies were effective and were well recognised throughout the country. As an example, Appendix B outlines Queensland's communication strategy.

2.2 COLLECTION

Each state and the NT were divided into regions. The number of regions varied in each state depending on distances. In some states, such as Queensland, contractors were made available to collect particularly dangerous chemicals or containers that were damaged and could not be moved.

In most states, licensed professional contractors were employed to collect, store, transport, treat and dispose of chemicals. However, in the NT and WA trained Environmental Protection Department staff undertook collections.

Collection points included local government depots or landfills, hotels and crossroads in major towns, showgrounds and private properties. Collections were timed to avoid farmers' busiest times.

2.3 STORAGE AND DISPOSAL

Once the chemicals were collected, they had to be stored while being tested and sorted for recycling, treatment and disposal. In many instances, the chemicals were treated before being sent to companies for destruction or disposal. The chemicals were transported in accordance with dangerous goods and environment protection legislation.

At the time ChemCollect was initiated, two processes were used in Australia by three firms to destroy OCP waste. The BCD Technologies plant in Brisbane is now the sole Australian facility for OCP destruction as well as for polychlorinated biphenyl (PCB) material. Although the BCD facility is purpose designed and has storage capacity, the company is currently processing considerable quantities of PCBs from large national electricity organisations. Due to the backlog of wastes at BCD Technologies, approximately 120 tonnes of OCPs collected under ChemCollect are currently being stored in various locations awaiting destruction. Destruction may take one to three years, depending on BCD's ability to process the stockpile. The chemicals collected in the Northern Territory have all been destroyed.

Farmers took up the opportunity to rid their properties of unwanted and deregistered agricultural and veterinary chemicals. Most states and the Northern Territory collected more chemicals than anticipated. Some states used the opportunity to collect other chemical wastes at their ChemCollect sites, including waste oil in SA and household chemicals in NSW.

3 STATE AND TERRITORY REPORTS

These reports provide an outline of the methodology, communication strategies employed and outcomes for each state and the Northern Territory in implementing ChemCollect.

3.1 NEW SOUTH WALES

3.1.1 Background

Before the implementation of the ChemCollect Program, an independent survey[7] was conducted in Queensland to estimate the volume of agricultural and veterinary chemical waste present in the farming community. Based on this survey, it was estimated that approximately 340 tonnes of unwanted farm chemicals would be present in NSW.

3.1.2 Methodology

ChemCollect NSW was overseen by the NSW Environment Protection Authority (EPA), now part of the NSW Department of Environment and Conservation. Waste Service NSW (WSN) project-managed ChemCollect NSW, engaging commercial subcontractors to undertake on-site collection, transportation, segregation and disposal of chemicals.

The ChemCollect Stakeholder Advisory Panel (CSAP) was established to provide advice on the implementation of ChemCollect NSW. In addition to the NSW EPA and WSN, the following stakeholders were represented on CSAP:

- New South Wales Farmers' Association
- local government and shires associations
- Avcare
- Rural Lands Protection Board
- Veterinary Manufacturers and Distributors Association.

[7] As outlined in the Background section of this report.

The CSAP provided advice on the timing and location of collections, which ensured that the ChemCollect NSW program was aligned with seasonal workloads of farmers and existing local government networks in each region. The CSAP also provided endorsement for the successful completion of each stage of the program.

Collections began in November 2000 and concluded in December 2002. The program operated in 134 local government areas and encompassed remote, rural and semi-rural regions. ChemCollect NSW operated on average for 1.5 days in each local government area, which equated to either one or two full days in each location. ChemCollect covered NSW comprehensively in five stages, which are outlined in Table 2.

Table 2: Regional collection timetable (New South Wales)

Stage	Regions	Collection dates
1	South East	28/11/00–13/12/00
2	South East, Illawarra, Macarthur, Far West, Riverina, Murray	02/04/01–20/07/01
3	Northern Inland, Inner Central West	24/07/01–02/11/01
4	Eastern Riverina, Central Coast, Hunter	12/03/02–22/05/02
5	Outer Central West, Mid North Coast, North East, Hornsby, Baulkham Hills, Blue Mountains, Hawkesbury, South Western Sydney	04/06/02–02/12/02

In addition to these collections, the EPA collaborated with other agencies and local governments to operate joint hazardous household waste/farm chemical collection services where possible. Four joint collections took place in NSW:

- South East: in conjunction with the Sydney Catchment Authority
- Northern Inland: in conjunction with local government
- Dubbo: in conjunction with local government
- North East: in conjunction with the North East Waste Forum

Joint collections were conducted at the existing ChemCollect NSW sites. Provisions were made to accept hazardous household waste at these sites. Costs for the collection, segregation, transportation and destruction of hazardous household waste were borne by the participating local government or state agency. These collaborative collections provided environmental benefits to a broad constituency without diverting funds from the collection of farm chemicals.

3.1.3 Communication Strategy

With the advice of CSAP, NSW adopted a wide range of measures to ensure that the opportunity for farmers to use the service provided by ChemCollect NSW was communicated effectively. Information about the program was conveyed via direct mail (personally addressed); newspaper advertising; radio advertising; the provision of media kits to stakeholders and Ministerial media releases. Data collected by WSN indicates that the primary source of information about ChemCollect NSW was direct mail and newspaper advertising.

The EPA also attempted to ensure equitable access to ChemCollect NSW. Experience showed that significant numbers of farm chemical users in the Sydney basin did not speak English as their first language. To target farmers and market gardeners in these areas, the EPA used four community languages as well as English.

3.1.4 Outcomes

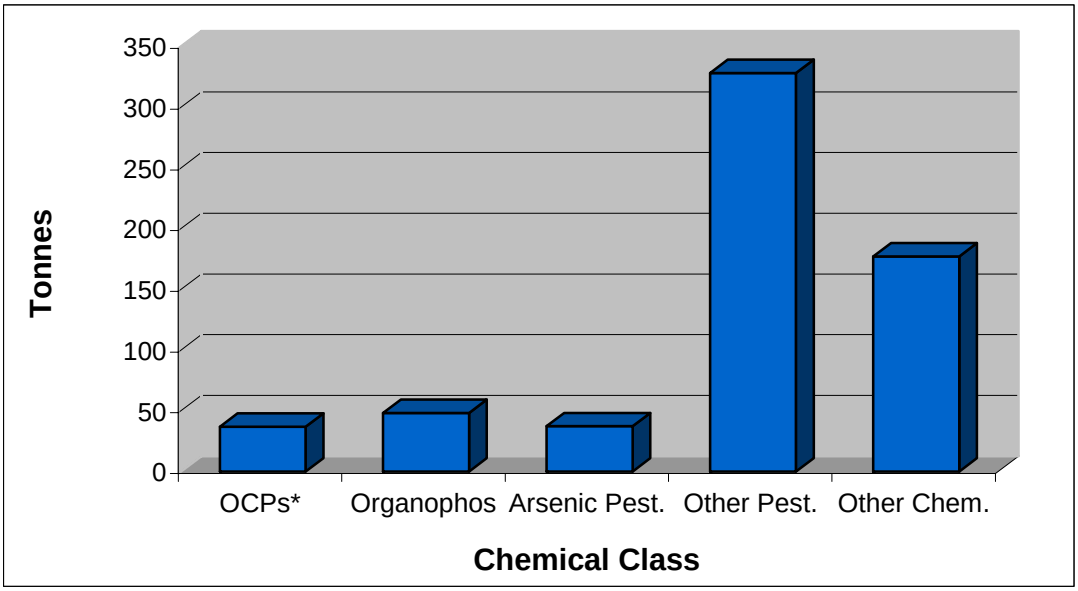
In NSW, ChemCollect captured a total of 627.6 tonnes of chemicals with 6719 farmers participating.

A summary of the classes of chemicals collected in NSW is presented in Table 3 and Figure 3. A detailed breakdown of the amount of chemicals collected in each stage of the NSW ChemCollect program is provided in Appendix A (Table A1 and Figure A1).

Table 3: Chemicals collected in each chemical class (New South Wales)

Chemical class	Tonnes of chemicals collected
OCPs	36.9
Organophosphates	48.2
Arsenic pesticides	37.3
Other pesticides	328.1
Other chemicals	177.1
Total	627.6

Figure 3: Chemicals collection in each chemical class (New South Wales)



3.1.5 Financial Reporting

NSW was allocated a total budget of $8.66 million for ChemCollect. As at January 2003, $3,212,190 had been spent, although additional funds have been committed to ChemCollect work. Total expenditure is expected to significantly increase as the post-collection phases of ChemCollect (storage, transport and disposal/destruction) are implemented. However, all indicators suggest that the NSW ChemCollect program will be delivered under budget.

3.1.6 Conclusions

In NSW, the collection phase of ChemCollect was concluded successfully and CSAP endorsed the successful completion of the program as a whole.

The majority of chemicals have a known destruction route, and it is therefore expected that most chemicals will require minimal storage prior to destruction (all chemicals for stages one to four have now been destroyed, with the exception of OCPs and chemicals mixed with arsenic (intractable) which will require longer-term management). NSW, like other jurisdictions, has experienced delays in the sub-contractors achieving destruction of OCP wastes. As a result, the EPA has made provisions to oversee the safe management of this waste for an extended period. NSW expects that the Australian Government will give due consideration to the export of chemicals mixed with arsenical chemicals to an overseas destruction facility in accordance with the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*. Accordingly, the EPA has made provisions for this waste to be managed in the short-term or long-term.

3.2 NORTHERN TERRITORY

3.2.1 Background

The Northern Territory ChemCollect program was carried out in 2000. The NT Government managed the program and provided public relations services and the facilities and personnel for receipt of the chemicals collected. The WA Department of Environmental Protection (WA DoE) ChemCollect team administered the next phase of the chemicals' management after collection.

Due to the relatively small size of the agricultural industry, and the comparatively recent emergence of large-scale usage of chemicals in the NT, ChemCollect NT was expected to collect only five tonnes of hazardous veterinary and agricultural chemicals.

3.2.2 Methodology

Formal planning for the collection of chemicals in the NT began in December 1999 with meetings involving stakeholders. Farmers were then surveyed as to the volumes and types of chemicals they might turn in and their preferred collection methods. From the responses received, it appeared that the tonnage collected would be small, and that producers would prefer the collection points to be open for a few weeks, rather than a few days. This would assist producers on remote properties – many being hundreds of kilometres from the closest regional centre – to combine the collection with other commitments in town and avoid making two trips.

The formal time period for the collection of chemicals was the four working weeks between 15 May and 9 June 2000, although chemicals were accepted as early as February and as late as 16 June 2000. Nine Primary Industry and Fisheries agency facilities, located close to pockets of farming operations or in centres where producers routinely obtain supplies, were chosen as collection points. The period each facility was open was tailored to the local situation. A summary of the facility locations and collection dates is provided in Table 4.

Table 4: Regional collection timetable (Northern Territory)

Collection facility	Main type of farming	Collection dates
Berrimah (Darwin)	Horticulture	15/05/00–09/06/00
Coastal Plains	Horticulture	29/05/00–09/06/00
Douglas Daly	Cereal/grain	08/06/00–09/06/00
Katherine	Horticulture/pastoral	15/05/00–09/06/00
Timber Creek	Pastoral	15/05/00–09/06/00
Borroloola	Pastoral	15/05/00–09/06/00
Tennant Creek	Pastoral	15/05/00–09/06/00
Ti Tree	Horticulture	09/06/00
Alice Springs	Pastoral	15/05/00–09/06/00

Primary Industry and Fisheries agency staff received the chemicals and liaised with farmers about the collection. After the collection period expired, the WA DEP team collected the chemicals and brought them to Darwin where the team sorted the chemicals for neutralising, recycling or treatment and disposal. Neutralising was done on-site and the remaining materials were shipped to Perth where chemical companies took the recyclables and materials for treatment, with the disposal of chemicals processed by Eli Eco Logic at Kwinana, WA.

3.2.3 Communication Strategy

In the NT, ChemCollect was introduced to producers in early 2000 via newsletters and talks from producer and government organisations. Shortly before the collection commenced, an intense wave of communication was launched, which included:

- faxing and mailing material to producers and chemical handling certificate holders;
- conducting radio and press interviews, including on the ABC Rural Hour;
- placing advertisements in all Territory newspapers;
- placing articles and advertisements in government and producer organisation newsletters;
- promoting the Minister's ChemCollect launch via radio, television and the press;
- distributing information at producer workshops and meetings;
- placing posters in producer oriented companies and organisations;
- Primary Industry and Fisheries agency field officers communicating directly with producers via telephone and site visits;
- engaging the large Vietnamese farming community via posters translated into Vietnamese and involving a translator in discussions with producers; and
- providing a Freecall 1800 number for information on the collection.

A second wave of communication was launched halfway through the collection period. This included further faxes, mail-outs, phone contacts, radio interviews, site visits and advertisements. The ABC Rural Hour also began a daily countdown to the end of the program and regional newspapers carried articles with photos about the local ChemCollect facility.

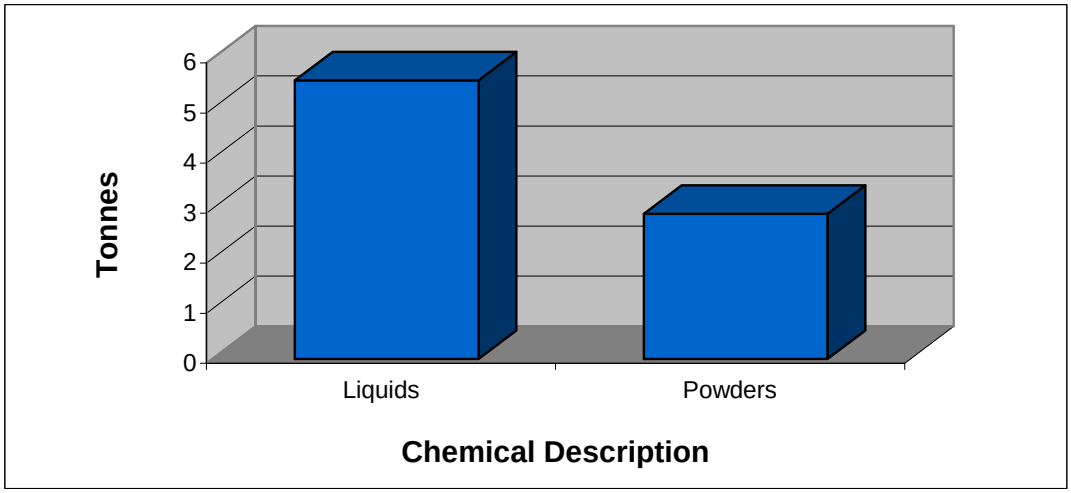
3.2.4 Outcomes

A total of 8.47 tonnes of fungicides, herbicides, insecticides, hazardous and restricted chemicals, arsenicals and organochlorine and organophosphorous pesticides was collected. The bulk of the material collected comprised organophosphates, herbicides, and Chlorothalonil and Mancozeb fungicides. There were 5.57 tonnes of liquids and 2.90 tonnes of powders with a total of 1.35 tonnes recycled or neutralised. This is graphed in Figure 4.

A summary of the total tonnage of chemicals collected in each chemical class is not available for the NT as the chemicals collected were separated only into the categories 'liquids' and 'powders'.

A detailed breakdown of the chemicals collected in each NT collection point is provided in Appendix A (Table A2 and Figure A2).

Figure 4: Chemicals collected by chemical description (Northern Territory)[8]



3.2.5 Financial Reporting

The NT was allocated a total budget of $500,000 to undertake the program. ChemCollect was delivered under budget, with a total expenditure of $235,349.

3.2.6 Conclusions

The program collected 60 per cent more tonnage than forecasted, ran smoothly, consumed less than half the allocated funding, and was completed by the end of October 2000. It also provided extra value in that it enabled a Territory-wide *drumMUSTER* collection to be run concurrently, giving all producers the chance to properly dispose of all their chemical wastes at one time for no charge. A key factor in making the project a triple bottom line success was the excellent and highly professional job the WA DoE ChemCollect team did in managing the collection, classification, packaging and disposal of the chemicals.

3.3 QUEENSLAND

3.3.1 Background

ChemCollect Queensland was implemented by the Queensland Environmental Protection Agency (EPA). A project manager was appointed with direct responsibility for the preparation of contract documentation, completing the collection contract tender process, overseeing collection contracts and preparing and implementing an information and advertising program. From previous surveys, it was predicted that 270 tonnes of chemicals, predominantly OCPs, would be collected from 10 per cent of Queensland's farmers (approximately 3000).

3.3.2 Methodology

At an early stage in planning for ChemCollect, it was realised that the cooperation and assistance of rural, community, government and industry stakeholders would be important for the successful implementation of the scheme. The ChemCollect Queensland Implementation Advisory Group was established to assist with determining the collection contract conditions, preparing the collection schedule and preparing the information program. Stakeholders on the Advisory Group included industry groups (Avcare, Queensland Farmers Federation, Veterinary Manufacturers and Distributors Association, Waste Management Association of Australia), community groups (Queensland Local Government Association, Queensland Conservation Council/Toxic Link Network) and several state government agencies.

[8] A summary of the total tonnage of chemicals collected in each chemical class is not available for the Northern Territory

The collection of chemicals in Queensland was completed in nine phases from September 2000 to September 2002 (see Table 5). Phase one was a pilot study, which provided valuable information for the planning of phases two to nine. Three contractors were employed to undertake the chemical collections, CWDS Pty Ltd, NSW (phases one, three and six), Environchem Technologies Pty Ltd, Victoria (phases two, four, five and seven) and Cleanaway Queensland (phases eight and nine). All contractors were required to be licensed by the EPA under the Queensland *Environment Protection Act 1994* for the transport, storage and handling of regulated waste.

With the assistance of local governments, collection points were established in major towns, recognisable rural points (hotels and crossroads) and remote areas within each local government area. A set of environmental selection criteria was used to ensure that collection points were not located near waterways, residential areas, schools, public recreational facilities or sensitive natural or cultural areas. The majority of collection points were at agricultural chemical retailers, council landfills or works depots, but in more remote areas roadside rest areas, gravel scrapes or vacant lands were used. The majority of collection points were open from 9 a.m. to 5 p.m. for only one day, with two-day collections in major farming centres. The average distance traveled per farmer to a collection site was 26km, with the maximum distance traveled being 440km.

To prevent mixing of incompatible chemicals and reduce the risk of spillages, farmers were asked to bring chemicals to the collection points in their original containers. All decanting and consolidation of chemicals occurred in licensed chemical handling and storage facilities, not at the collection points.

A contractor pick-up service was available where farmers had dangerous chemicals (e.g. cyanide, picric acid), a significant quantity of a chemical (>500kg), or where the containers were damaged and could not be moved.

Chemical retailers, schools, government departments, industry and urban councils regularly approached the EPA about the collection of unwanted chemicals. As these groups were not eligible for ChemCollect funded collections, the EPA facilitated commercial arrangements between the groups and contractors at special rates, given that the contractor was already in the area.

Table 5: Regional collection timetable (Queensland)

Phase	Regions	Main types of farming	Collection dates
1	Darling Downs (Toowoomba to Mitchell)	mixed crops, horticulture, grains, cotton, dairy, intensive livestock, sheep, cattle	09/00–10/00
2	Brisbane Valley, Gold Coast and Sunshine Coast hinterlands	mixed crops, fruit and vegetables, horticulture, sugar, dairy, cattle	11/00–12/00
3	Central West, North West (Charleville to Mt Isa to Charters Towers)	sheep, cattle	07/01–09/01
4	Burnett/Mary region (Gympie to Monto)	mixed crops, fruit (especially citrus) and vegetables, peanuts, horticulture, sugar, intensive livestock, dairy, cattle	06/01, 10/01–11/01
5	Gulf, Cape York	cattle	08/01
6	South West, Southern Border (Warwick to Windorah)	cattle, sheep, cotton, grains, fruit and vegetables	08/01–10/01
7	Central, Central Highlands (Rockhampton to Emerald)	cattle, sheep, cotton, grains, fruit and vegetables	06/02–08/02
8	North and Far North Coast (Mackay to Mosman)	sugar, cattle, fruit and vegetables, mixed crops	05/02–08/02
9	South East		08/02–09/02

3.3.3 Communication Strategy

ChemCollect posters, drink coasters and stubby coolers were distributed to all local governments, agricultural supply retailers and hotels to achieve program recognition.

A 24-hour ChemCollect hotline operated throughout the program to enable farmers and others in the community to obtain information when it suited them. Urgent requests were directed to the project manager's mobile phone.

ChemCollect gained wide television coverage throughout Queensland through local news programs and rural current affairs programs. The ABC Landline program devoted 20 minutes of national prime time television coverage to ChemCollect Queensland operations.

The stubbie cooler in Queensland proved to an effective method to inform farmers.

For a complete outline of the communication strategy, refer to the Queensland ChemCollect Communication Plan in Appendix B.

Post-ChemCollect farmer surveys identified that the major sources of information about ChemCollect were newspapers, radio and local councils, with 90 per cent of farmers directly receiving information about collection times and places. The ChemCollect Program achieved a 96 per cent recognition rate in the rural community.

3.3.4 Outcomes

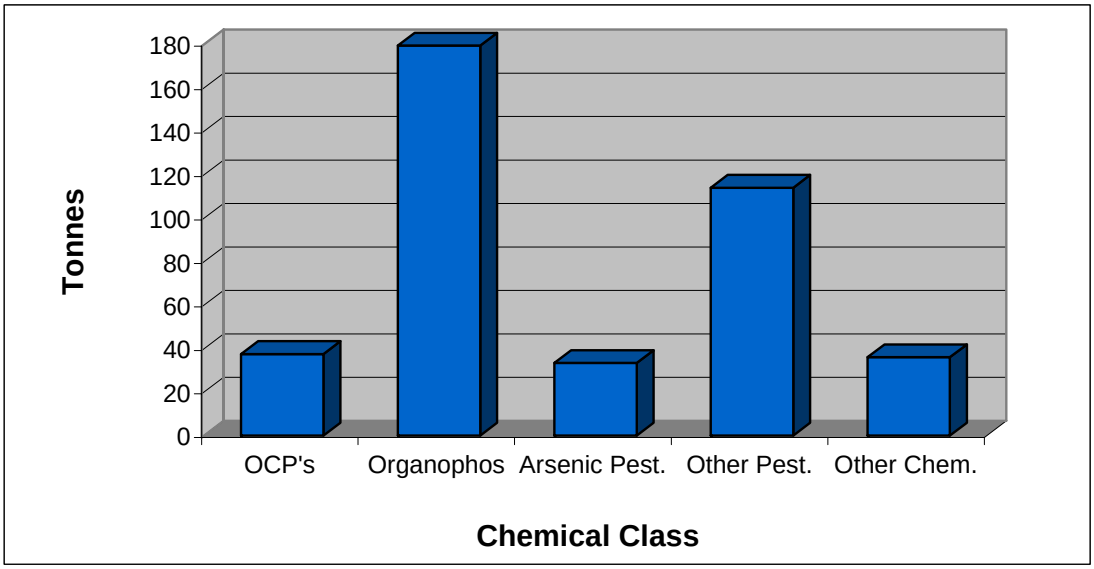
The ChemCollect Queensland collected more than 400 tonnes of chemicals from 3290 farmers. A summary of the quantity of chemicals collected in each chemical class is provided in Table 6 and Figure 5. A detailed breakdown of the quantity of chemicals collected in each phase is provided in Appendix A (Table A3 and Figure A3).

Table 6: Chemicals collected in each chemical class (Queensland)

Chemical class	Tonnes of chemicals collected [9]
OCPs	37.5
Organophosphates	179.4
Arsenic pesticides	33.4
Other pesticides	114.0
Other chemicals	36.0
Total	**400.3**

[9] Some contractors are yet to validate the quantities of chemicals collected or identify all unknowns.

Figure 5: Chemicals collected in each chemical class (Queensland)



To date, only small quantities (approximately 100kg) of intractable OCP/arsenic or OCP/mercury mixed chemicals have been identified in the collected chemicals. These are currently in long-term storage at relatively low costs.

Cattle graziers made up the greatest number of participants and brought in the greatest overall quantity of chemicals, with mixed croppers second, and fruit and vegetable growers third. On average, 11 farmers visited each collection point bringing in 109kg per farmer.

The ChemCollect Queensland Implementation Advisory Group endorsed the success of the ChemCollect Program in meeting the performance indicators.

3.3.5 Financial Reporting

The funding allocated to ChemCollect Queensland over the three years of the program was $5.8 million with $2.7 million from the Australian Government and up to $3.1 million from the state. Given that collection contractors are still to identify all collected chemicals and to verify weights, the final cost of ChemCollect Queensland is still uncertain. However, it is estimated that ChemCollect will be delivered under budget (at an estimated cost of $4.76 million).

3.3.6 Conclusions

ChemCollect Queensland has assisted more then 3000 farmers to dispose of more than 400 tonnes of unwanted rural chemicals, safely and without affecting the health of the environment or the rural community. The program provided the opportunity for every primary producer in Queensland to dispose of unwanted rural chemicals at no cost, although it is unlikely that all chemical holders took advantage of the scheme.

The involvement of stakeholders at an early stage in planning ensured the commitment of all groups to the program's success. In particular, the Queensland Farmers Federation was supportive of the program and congratulated the EPA on its implementation and outcomes.

The quantities of the different types of chemicals collected showed that the target type, OCPs, made up less than 10 per cent of the chemicals collected; and even that figure included endosulfan, an unregistered OCP. Nearly 78 per cent of chemicals collected were pesticides

that are currently, or were recently, registered for use. During the three years of ChemCollect, it was clear that unwanted, currently registered chemicals were still accumulating on farm properties. Repeat collections in a few areas produced significant quantities of newly expired registered chemicals, a clear indication of the need for early implementation of the industry-based ChemClear® program.

The EPA's experience with ChemCollect contractors has highlighted a number of key points relevant to the efficient and effective operation of chemical collection schemes. These points are:

- The contracting team should be led by a professionally qualified and experienced chemicals person, present at all collection points.
- The contractor should directly supervise the transport of the chemicals from collection points to licensed consolidation or storage facilities, as the use of subcontractors for transport outside the contractor's direct control can lead to inappropriate or careless actions.
- Contractors should be asked to confirm that they have definite disposal options for all major chemical types, particularly arsenic and OCPs.

The presence of only one company in Australia, BCD Technologies, licensed for the destruction of OCPs has led to a backlog of chemicals held by contractors awaiting disposal. This has caused problems for two of the EPA's contractors who will need to arrange storage of the OCPs for two to three years until BCD is able to take them. As there are relatively small quantities of these chemicals, this should not lead to excessive additional costs. The third contractor has direct access to BCD and is not faced with a waiting period.

3.4 SOUTH AUSTRALIA

3.4.1 Background

ChemCollect South Australia commenced in May 2000 and the final collection was held in October 2002. Coordinated by the South Australian Environment Protection Authority (EPA), the emphasis was on collecting OCPs such as DDT, lindane, chlordane and dieldrin. However, through discussions with agricultural industry leaders and community representatives, the EPA recognised the need to collect other hazardous chemicals.

Waste oil was identified as a problem to the community due to the lack of collection and disposal options available in rural and regional areas. SA took up the challenge and used waste oil as an incentive to get farmers to deliver their other more hazardous unwanted products. It became clear that people were willing to deliver 20 litres of pesticide if they could dispose of 200 litres of waste oil. To them it made the exercise worthwhile.

The main aim of ChemCollect was to remove agricultural and veterinary chemicals, in particular OCPs, from farms. The program was designed to eliminate the risk to human health and the environment and to protect SA's clean, green agricultural products by providing an accessible and useful service to the community.

3.4.2 Methodology

South Australia used the services of Cleanaway SA over the three-year period, for site set up, segregation, packaging, transport and disposal of chemicals. In 2000, local councils received chemicals at the collection points, and in 2001 and 2002, Cleanaway SA received the chemicals. Separate contracts were awarded for each collection.

The collections were undertaken in 14 stages covering 52 rural and regional council areas and the area of the Outback Community Trust and Pastoral Boards (see Table 7). Ninety-one collection points were selected in consultation with stakeholders. The majority (82 per cent) of

collection points were at council works depots. Other sites used were Country Fire Services depots, Transport SA depots, showgrounds, Animal and Plant Control Boards and private properties.

Farmers were given numerous venues and dates in each area and some on-farm visits were conducted where handling issues were a problem. 'No questions asked' was the motto as the focus was to get rid of the chemicals rather than target the individuals who had them.

Table 7: Regional collection timetable (South Australia)

Stage	Regions	Number of collection points	Collection dates
1	Adelaide Hills, Barossa Valley	3	10/05/00–19/05/00
2	Lower North, Adelaide Plains	9	22/04/02–17/05/02
3	Mid North	13	02/10/01–24/10/01
4	Yorke Peninsula	4	21/08/00–31/08/00
5	Fleurieu Peninsula	4	03/07/00–14/07/00
6	Upper South East, Coorong	8	04/03/02–15/03/02
7	Lower South East	8	07/05/01–25/05/01
8	Murraylands	4	03/1000–12/10/00
9	Riverland	6	18/06/01–29/06/01
10	Kangaroo Island	3	05/03/01–16/03/01
11	Murray area	8	30/09/02–16/10/02
12	Upper Eyre Peninsula, Whyalla, Port Augusta	6	08/07/02–26/07/02
13	Lower Eyre Peninsula	7	06/08/01–24/08/01
14	Outback	8	20/08/02–13/09/02

Certain chemical types that were collected could not be disposed of in SA. Arsenic compounds and general pesticides were treated in Victoria. Only one facility, BCD Technologies in Queensland, is licensed for the disposal of OCPs in Australia.

3.4.3 Communication Strategy

Prior to each collection, a great deal of effort went into consultation with stakeholders, communication and advertising.

During the first year of ChemCollect, the EPA managed the advertising for the program. This advertising comprised posters, mail-outs and advertisements in local papers only. In 2001 and 2002, ChemCollect used the services of Jon Lamb Communications. An awareness and media strategy was prepared for every area with advice sought from local Department of Primary Industries SA representatives, councils, resellers and private farm consultants.

'Local champions' – farmers in every area – were involved in media releases. They emphasised the need to protect valuable agricultural industries from chemical contamination and encouraged farmers in their district to take part in ChemCollect.
ChemCollect was promoted through newspapers, local newsletters, commercial radio stations, community announcements and television. School newsletters, mail-outs and fliers were also used.

The communication strategy targeted rural communities from the point of awareness to the point of adoption of ChemCollect. The strategy consisted of five stages – awareness, interest, information, reference and experience.

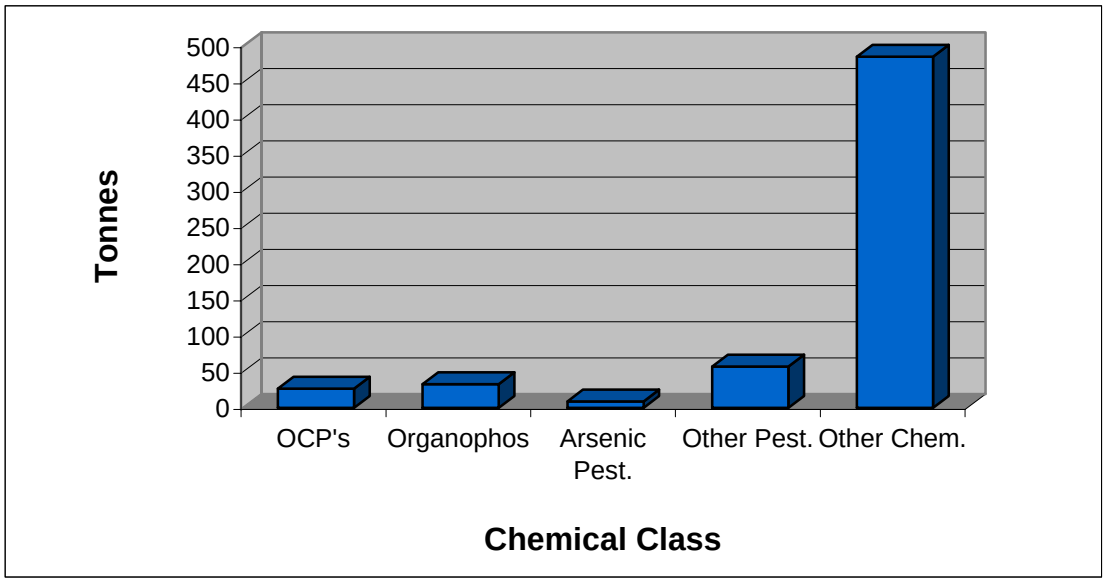
3.4.4 Outcomes

In South Australia, 610.3 tonnes of chemicals were received from 3667 people. More than 367 tonnes of waste oil was captured, which was later reused as a fuel source. A summary of the types of chemicals collected in SA is presented in Table 8 and Figure 6. There were no incidents throughout the entire duration of the program. A detailed breakdown of the quantity of chemicals collected in each phase is provided in Appendix A (Table A4 and Figure A4).

Table 8: Chemicals collected in each chemical class (South Australia)

Chemical class	Tonnes of chemicals collected
OCPs	26.6
Organophosphates	32.7
Arsenic pesticides	9.0
Other pesticides	57.2
Other chemicals	484.8[10]
Total	**610.3**

Figure 6: Chemicals collected in each chemical class (South Australia)



3.4.5 Financial Reporting

South Australia was allocated a total budget of $2.6 million for the ChemCollect Program. As at 31 December 2002, $1,934,744 had been expended on the program. The total expenditure is expected to increase as South Australia has in storage 29 tonnes of OCPs (this includes rinsate from repacking exercises), nine tonnes of chemicals mixed with arsenicals, 4.7 tonnes of arsenic pesticides and 2.2 tonnes of general pesticides which require treatment and disposal. It is expected, however, that the program will be delivered on budget.

3.4.6 Conclusions

ChemCollect has been highly successful in collecting unwanted farm chemicals, with 610.3 tonnes of unwanted agricultural and veterinary chemicals received in South Australia. The implementation of the program in South Australia was structured in such a way as to maximise opportunities for all farmers to participate. The EPA was responsible for implementing

[10] Includes 367 tonnes of waste oil, 1.5 tonnes of ethylene dibromide and 9 tonnes of intractables (mixtures of OCPs and heavy metals).

ChemCollect and there were extensive consultations with stakeholders and an extensive public awareness program.

An effective service to rural and regional communities in South Australia has been provided. The South Australian environment, the community and the state's agricultural products can now benefit from the reduced risks of contamination and exposure to toxic chemicals such as OCPs and arsenical compounds.

3.5 TASMANIA

3.5.1 Background

ChemCollect Tasmania was coordinated by the Environment Division of the Department of Primary Industries, Water and Environment (DPIWE).

The main aim of ChemCollect was to remove OCPs from farms and dispose of them appropriately in a safe manner to eliminate the risks to human health and Tasmania's clean and green agricultural products. The collection program in Tasmania commenced in September 2001 and the last collection was in October 2002.

3.5.2 Methodology

A reference group of stakeholders was formed to provide advice on the implementation of ChemCollect Tasmania.

For the purpose of collections, the state was divided into the four regions listed in Table 9. These regional divisions divided mainland Tasmania into approximately three equal areas with King and Flinders islands treated as one area due to the similar logistic problems involved in accessing small offshore islands. Separate contracts were awarded in each region after tendering. Envirochem Technologies was contracted to collect chemicals in the North West while Chemsal was contracted to collect chemicals in the other three regions.

Prior to each collection period in the regions, a great deal of effort went into site selection. Collections were held at 33 local council sites, either waste transfer stations or work depots. The Tasmanian mainland farmers were provided with a central collection point in each municipality. The program was designed so that collections moved in turn to neighbouring councils. Therefore, farmers had the opportunity to hand in unwanted chemicals at perhaps two to three locations within 100km of their farm.

There was on-site Departmental supervision and representation for the entire duration of the collection program and an audit was conducted.

Table 9: Regional collection timetable (Tasmania)

Region	Number of collection points	Collection dates
North West	10	10/09/01–01/10/01
North East	10	26/11/01–13/12/01
Southern	11	20/05/02–06/06/02
King and Flinders Islands	2	26/09/02–11/10/02

3.5.3 Communication Strategy

The public awareness campaign was managed by the Environment Division of DPIWE. Prior to implementing a collection program in each region, a great deal of effort went into communication and advertising including:

- a Ministerial launch with extensive coverage;
- a ChemCollect information sheet, which was sent to all Tasmanian Farmers and Graziers Association members (95 per cent of Tasmanian farmers);
- a flyer advertising dates and venues, which was given to councils for wide distribution two to four weeks before a collection;
- direct mail-outs of the flyer to all farmers who expressed an interest or made an inquiry;
- a direct mail-out of the flyer to every address on King and Flinders Islands ;
- brochures for councils and farmers describing safe chemical handling techniques;
- articles in the local newspapers, including mayor's columns, for each collection;
- articles in agriculture-based publications;
- television and radio interviews, including the ABC rural programs and drive time programs;
- presentations at a Meat and Livestock Australia event and at stands at Agfest (the biggest annual agricultural event in Tasmania); and
- presentations made to councils and to distributors of agricultural and veterinary chemicals such as Websters and Roberts.

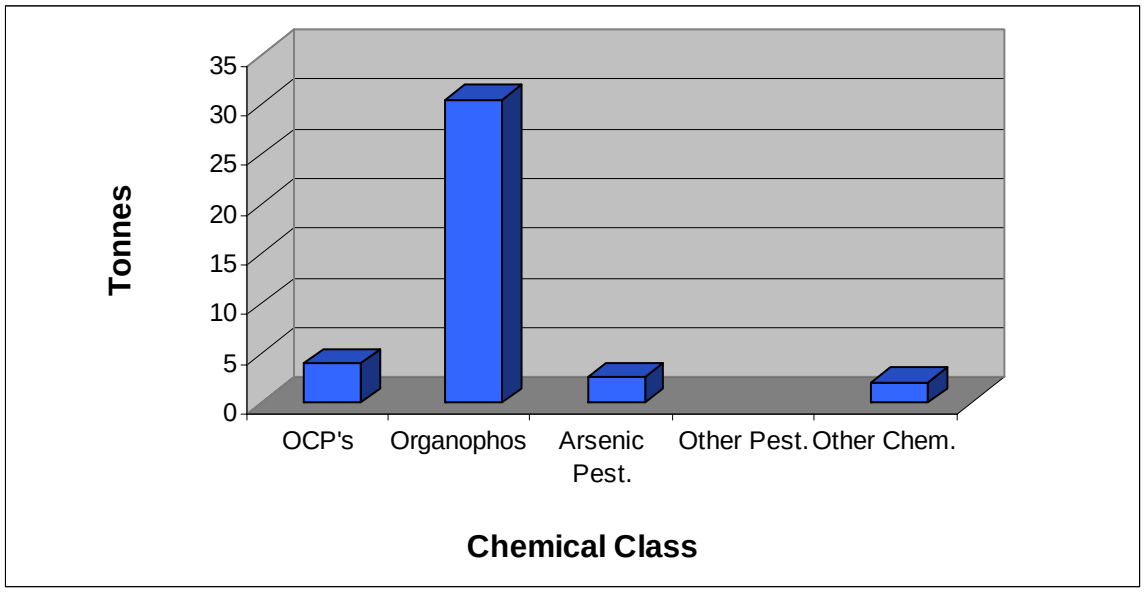
3.5.4 Outcomes

In total, ChemCollect Tasmania collected 39.7 tonnes of unwanted farm chemicals from 417 farmers. A summary of the types of chemicals collected is presented in Table 10 and Figure 7. There were no intractable chemicals collected in Tasmania and there were no spills or incidents throughout the entire duration of the program.

Table 10: Chemicals collected in each chemical class (Tasmania)

Chemical class	Tonnes of chemicals collected
OCPs	4.0
Organophosphates	30.5
Arsenic pesticides	2.6
Other pesticides	0.0
Other chemicals[11]	2.1
Total	**39.2**

Figure 7: Chemicals collected in each chemical class (Tasmania)



3.5.5 Financial Reporting

Tasmania was allocated $800,000 for the ChemCollect Program. Total expenditure for the program was under budget with $655,000 expended as at 30 June 2003.

3.5.6 Conclusions

The Tasmanian environment, and its clean and green products, can now further benefit from reduced risks of contamination and exposure to highly toxic persistent chemicals such as OCPs and arsenicals.

3.6 VICTORIA

3.6.1 Background

ChemCollect Victoria follows a previous rural chemicals collection scheme from 1989 to 1992 that collected 38 tonnes of pesticide chemicals from 4300 respondents. It was estimated at the outset of ChemCollect Victoria that there were still in the order of 320 tonnes of unwanted farm chemicals in the agricultural community. The aim of ChemCollect Victoria was to provide an equal opportunity to all Victorian farming enterprises to dispose of their unwanted chemicals. The ChemCollect Program was managed by the Environment Protection Authority (EPA) of Victoria.

3.6.2 Methodology

An advisory group comprising key interest groups and agencies, including the Victorian Farmers Federation, was established to provide advice on issues relating to communication and timing of collections.

For the purposes of collection, the state was divided into five regions, which are outlined in Table 11. In each region a series of 'drop off' collections were conducted. Farmers were able to book for an appointment to drop off their chemicals at a designated location on a specific day. There was at least one collection point in each municipality in the state so that, for the most part, farmers had to travel no more than 30km.

Table 11: Regional collection timetable (Victoria)

Region	Number of collection points	Collection dates
North West	26	05/06/00–01/08/00
South West	19	03/10/00–23/11/00
Gippsland	17	20/03/01–23/05/01
North East	28	21/08/01–24/10/01
Central	19	16/04/02–29/05/02

At the conclusion of the five regional collections, a 'mop up' exercise was conducted in which all farmers in the state were given a final opportunity to get rid of their unwanted chemicals. This final collection comprised 234 on-farm collections and yielded an additional 22 tonnes (9 per cent of Victorian total) of chemicals.

3.6.3 Communication Strategy

The communication strategy was designed to ensure a high level of awareness by farmers and the general community of the availability of ChemCollect Victoria. Advertisements were placed in local newspapers and in the rural *Weekly Times*. Brochures were produced for each stage of ChemCollect Victoria and distributed to farmers via the Victorian Farmers Federation, industry/growers groups and farms supply retailers. Posters were distributed to farm supply

[11] Includes acids, oxidisers, chlorinated solvents, heavy metals, pharmaceuticals, poisons, alkalis and cyanide.

retailers and to local councils. Local council and local radio media was also used to promote the program.

3.6.4 Outcomes

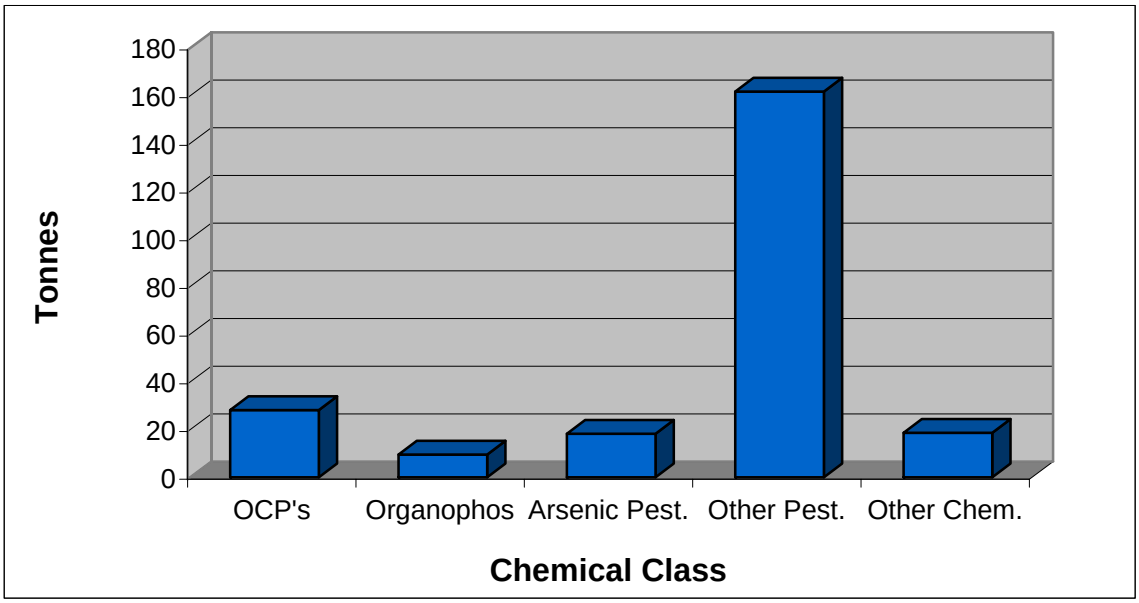
A total of 236.38 tonnes of pesticides was collected from 2847 participants. The amount collected was approximately 74 per cent of the amount of waste estimated to remain on farms at the outset of the program.

A summary of the types of chemicals collected in Victoria is presented in Table 12 and Figure 8. All unknowns have been analysed and allocated to the appropriate class. A detailed breakdown of the amount of chemicals collected in each region is provided in Appendix A (Table A5 and Figure A5).

Table 12: Chemicals collected in each chemical class (Victoria)

Chemical class	Tonnes of chemicals collected
OCPs	28.21
Organophosphates	9.51
Arsenic pesticides	18.24
Other pesticides	161.70
Other chemicals	18.71
Total	**236.38**

Figure 8: Chemicals collected in each chemical class (Victoria)



Due to extensive chemical analysis of material collected prior to disposal, a fairly large proportion of material from the 'other pesticides' class was found to be contaminated with levels of OCPs above 50 ppm and so will ultimately have to be disposed of as OCPs.

3.6.5 Financial Reporting

Initially $6.4 million was allocated to ChemCollect Victoria. As at 31 March 2003, expenditure for ChemCollect was $2,073,929. There are still large disposal costs to be incurred, as OCPs have not yet been destroyed. Due to the rigorous testing regime in Victoria, there are 87 tonnes of material to be disposed of as OCPs. There will also be storage costs associated with this

material until a disposal route can be identified. It is expected, however, that the program will be delivered under the allocated budget.

3.6.6 Conclusions

ChemCollect Victoria has provided the Victorian rural community with an opportunity to get rid of all their unwanted farm chemicals. The program has been successful in removing more than 236 tonnes of unwanted chemicals from more than 2860 Victorian farms.

The pamphlet circulated by Victoria to inform holders of chemicals

3.7 WESTERN AUSTRALIA

3.7.1 Background

From 1987 to 1988, 220 tonnes of OCPs were collected in Western Australia by the Department of Agriculture (AgWA). There was considerable anecdotal evidence that stocks of OCPs, arsenicals and other unwanted farm chemicals were still being held in WA after this collection. There was seen to be a need for a government-sponsored collection and ChemCollect provided this service.

In WA the then Department of Environmental Protection, (now called the Department of the Environment (WA DoE)), was charged with the overall administration of the ChemCollect Program. There was a commitment from AgWA for a contribution in kind up to $50,000 per annum. This consisted of staff, storage space and some equipment use. All funding was through the WA DoE budget. The WA DoE and AgWA staff working on the program were generically referred to as the ChemCollect team.

Allocation of the Australian Government component of the funds for ChemCollect was done on a population basis. In WA, ChemCollect had to service a large area on proportionally less funding than the more populous states. An indication of the size of the project is that Kununurra in the East Kimberley is a similar distance from Perth as from Adelaide. This made it necessary to look carefully at the costs while providing a full service to the entire state. In view of this, it was decided to run the program from within the Controlled Waste Section of the WA DoE. This would cut costs by using existing infrastructure and expertise instead of contracting it out. The disposal phase was let to tender.

In addition to the large distances to be covered in WA, there is a diversity of agricultural practices. These range from a mixture of dairying, horticulture and wine production in the South-West region through the broadacre farming areas of the Wheat Belt to the more remote pastoral and desert regions and the irrigation areas of the East Kimberley. Agricultural practices especially in the Southwest region are also undergoing a lot of change due to market needs, resulting in unwanted agricultural chemicals.

A commitment was made, however, that the service would be offered to all local governments or councils within the state no matter how remote from the larger regional centres.

3.7.2 Methodology

As outlined above, WA had some unique problems in mounting a comprehensive chemical collection, as a result of the large area and low population outside the Perth metropolitan area. In order to make such a collection work it was decided to enlist the help of local governments. WA DoE staff received extra training and an Environmental Health Officer was employed on contract as the ChemCollect coordinator. Technical expertise was readily available within the Controlled Waste Section.

To cut disposal costs, where possible, collected material was returned to the manufacturer for recycling. Other material was also recycled through AgWA. Material for disposal or destruction was sorted so that the cheapest disposal methods could be used.

Collection points were established at secure local government depots or landfills under the supervision of the local Environmental Health Officer or members of the ChemCollect team. The collected material was then transported to Perth in a sea-container or by truck and sorted by the ChemCollect team for recycling, disposal or destruction.

Inorganic chemicals were encapsulated for disposal at a secure landfill. Up until December 2001, all organics not recycled went to Eli Eco Logic in Kwinana for high temperature hydrogen reduction. The only waste from this process was low strength salty water.

Following the closure of Eli Eco Logic, the remaining material was sent to Chemsal in Victoria for disposal or destruction.

Details of the collection techniques used are in Appendix C.

3.7.3 Communication Strategy

Advertising for ChemCollect in WA was mainly at a local level. This method was adopted after consultation with people involved in rural issues in the initial phase of the project. Initially there was some radio and TV coverage and some articles in the general circulation newspapers, but this appeared to have minimal impact.

During the collection phase, advertising of the program was via local newspapers or council newsletters, posters in local businesses and pamphlets left at prominent places within an area in which a collection was planned. Some local governments also sent out information to ratepayers with their regular council information. In some areas, information on collection dates was put in the post boxes at the local post office.

A 1800 phone number was set up within the WA DoE to deal with ChemCollect enquiries. This number was widely advertised on ChemCollect pamphlets and posters. Environmental Health Officers were encouraged to refer anyone with a query they could not readily answer to this service.

The ChemCollect coordinator or another officer visited every centre at which a collection was to take place two to four weeks prior to the collection. They would inform the local Environmental Health Officer and any other interested parties about ChemCollect as well as making sure pamphlets and posters were available to the local government and local business premises.

During these visits, the collection sites were inspected to ensure that they were suitable for temporary storage i.e. secure, accessible and flat for temporary bunding. Plastic bags for leaking containers and heavy-duty polyethylene sheeting for the temporary bunds were provided if necessary.

As the program progressed it became clear that in WA the local advertising and personal contact worked very well. The ChemCollect coordinator and the WA DoE built up a good rapport with most Environmental Health Officers which made for a much more successful collection than might otherwise have been possible. In the few cases where the Environmental Health Officer or the local government was not fully committed, the collections did not run as smoothly nor was as much material collected as for similar areas.

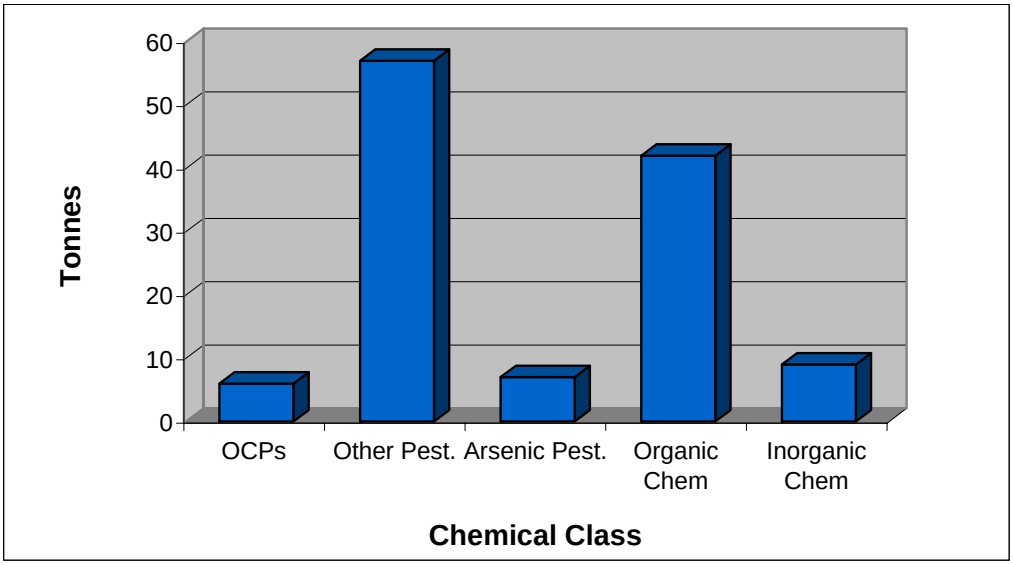
3.7.4 Outcomes

A total of 121 tonnes of material was collected and is summarised in Table 13 and Figure 9. Some of the numbers are approximate for material such as arsenic, as accurate weights were not obtained before disposal. Individual containers, many in a poor state, were handled as little as possible for safety reasons. Similarly, material sent to Eli Eco Logic was treated as a bulk lot. The containers of inorganic materials, such as arsenic compounds, were separated at their storage location and all the organics sent for hydrogen reduction. Eli Eco Logic did a mass balance on the totals for charging purposes.

Table 13: Chemicals collected in each chemical class (Western Australia)

Chemical class	Tonnes of chemicals collected
OCPs	6
Miscellaneous organic chemicals	42
Arsenic pesticides	7
Other pesticides	57
Miscellaneous inorganic chemicals	9
Total	**121**

Figure 9: Chemicals collected in each chemical class (Western Australia)



ChemCollect was offered to all 119 local government areas outside the Perth metropolitan area, with 78 participating. There were 88 collection sites. There were multiple sites in some local government areas and in other areas neighbouring local governments s shared sites.

3.7.5 Financial Reporting

Western Australia was allocated $2.4 million. As at 30 June 2003, $2,127,384 had been spent. This may rise slightly as a small amount of arsenic and miscellaneous pesticides held in storage is awaiting destruction.

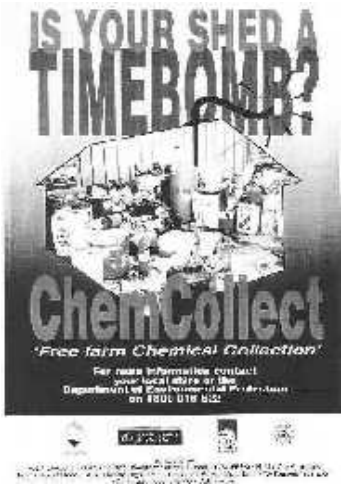
Such a financial result justified the decision to utilise existing state and local government resources instead of contracting out the entire collection and disposal program.

3.7.6 Conclusions

The ChemCollect program was successful in WA in that it was made available to every local government in the state and every person outside the Perth metropolitan area had access if they wished to use the services of ChemCollect. This was despite the problems of finance and distance outlined previously.

The key to the success of the program was the cooperation of the majority of local governments in WA. The WA DoE could not have provided such a comprehensive coverage without this help. These local governments also appreciated that material, which had been a problem for some time, had been removed.

There still appears to be a certain amount of material in the rural areas, which may yet cause some problems. The WA DoE still receives phone calls from local governments and private citizens seeking help and advice on the disposal of unwanted farm chemicals.



A pamphlet distributed by Western Australia to inform the community of the ChemCollect program

Much of this material has come to light when people want to sell their farms or people have bought properties to find they have chemicals that they do not want. In some cases the farm is part of a deceased estate and the chemicals have been found by those more environmentally conscious who have inherited the property. In a number of cases, people just did not present the material on the collection dates and have now decided they wish to dispose of it.

4 SUMMARY

Chemicals in the environment present a challenge that government, industry and the community at large are attempting to address in a collaborative way. The development and success of the National ChemCollect Program have addressed aspects of this challenge and, through the collection of those unwanted and deregistered chemicals, Australia's environment and agricultural sector can further benefit from the reduced risk of contamination and exposure.

The objective of the ChemCollect Program was to safely manage, collect and destroy unwanted and deregistered agricultural and veterinary chemicals from farms, using environmentally sound and best practice methods. In doing so, Australia would be better placed to demonstrate that it is managing chemicals with integrity thereby protecting the environment and the community, and enhancing its agricultural trading position.

The ChemCollect Program proved to be an excellent scheme that demonstrated cooperation between governments, industry and the community to achieve the set objectives. The states and the Northern Territory implemented the program and successfully collected a total of 1676 tonnes of unwanted and deregistered agricultural and veterinary chemicals.

As the majority of these chemicals, particularly OCPs, have been collected from farms, the way is now paved for ChemClear®, a joint initiative involving Avcare, VMDA and NFF, to continue to provide an ongoing service to collect unwanted registered chemicals that are no longer needed and are otherwise non-returnable.

Complementing ChemCollect and ChemClear® is *drumMUSTER*, an industry-led initiative for the safe collection and recycling of empty, clean, non-returnable chemical containers. Commencing in 1999, *drumMUSTER* has successfully collected a total of four million containers from Australian farms.

It is vital for both the Australian community and our trading partners that we have a credible and effective management system for chemicals, which addresses people's concerns about health and the environment while also ensuring access to the chemicals that primary producers need to earn an income for themselves and for Australia.

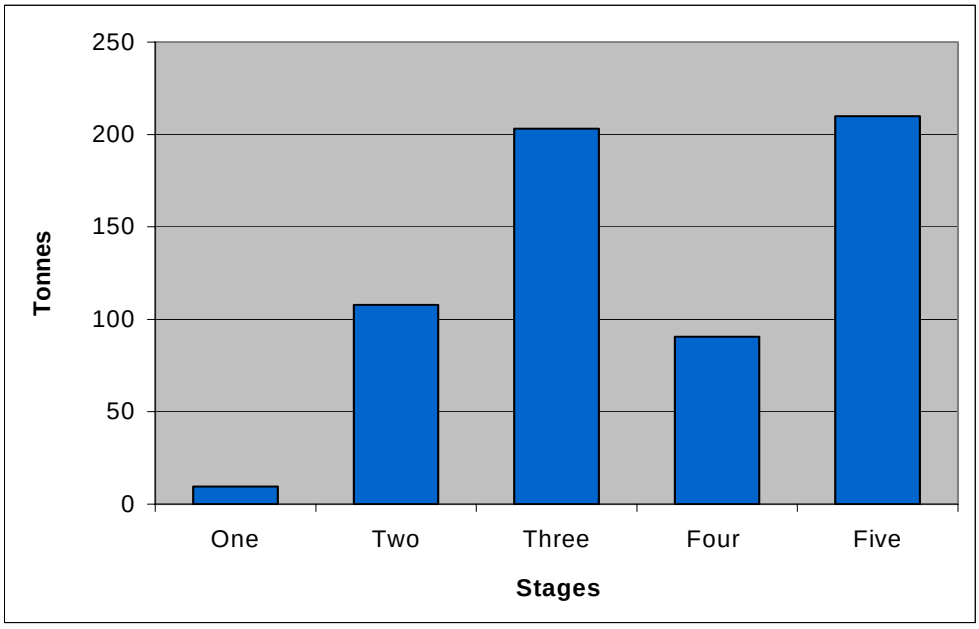
The bottom line is that partnerships in the agriculture and veterinary chemical industry play a key role in protecting human health, the environment and Australia's trading position.

APPENDIX A: TOTAL CHEMICALS COLLECTED IN THE STATE AND TERRITORY REGIONS[12]

Table A 1: Tonnes of chemicals collected in New South Wales regions

Stage	Regions	Tonnes of chemicals collected
1	South East	9.51
2	South East, Illawarra, Macarthur, Far West, Riverina, Murray	107.8
3	Northern Inland, Inner Central West	200.7
4	Eastern Riverina, Central Coast, Hunter	90.5
5	Outer Central West, Mid North Coast, North East, Hornsby, Baulkham Hills, Blue Mountains, Hawkesbury, South Western Sydney	219.1
Total		**627.6**

Figure A 1: Tonnes of chemicals collected in the five stages (New South Wales)



[12] NT, Tasmanian and WA tables and figures were not available at the time of compilation.

Table A 2: Tonnes of chemicals collected in Northern Territory regions

Collection points	Tonnes of chemicals collected
Alice Springs	0.53
Berrimah (Darwin)	1.69
Borroloola	0.00
Coastal Plains	2.47
Douglas Daly	1.29
Katherine	1.38
Tennant Creek	0.98
Timber Creek	0.03
Ti Tree	0.10
Total	**8.47**

Figure A 2: Tonnes of chemicals collected in Northern Territory regions

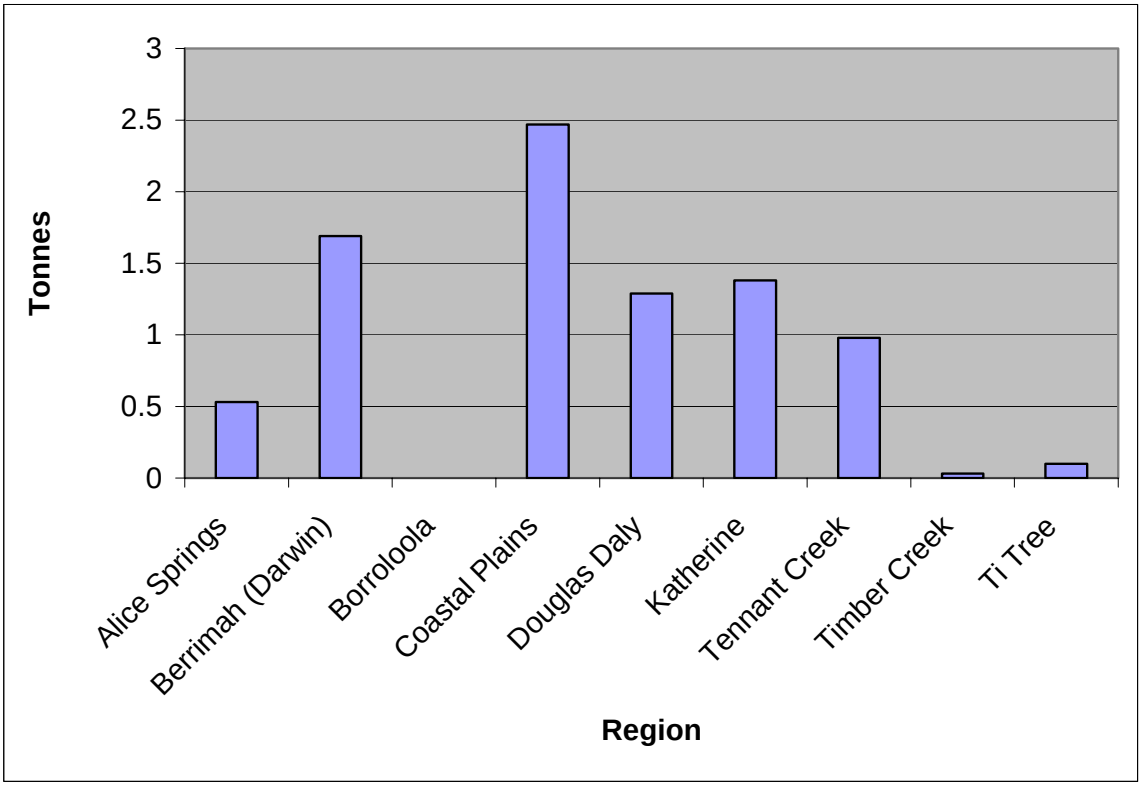
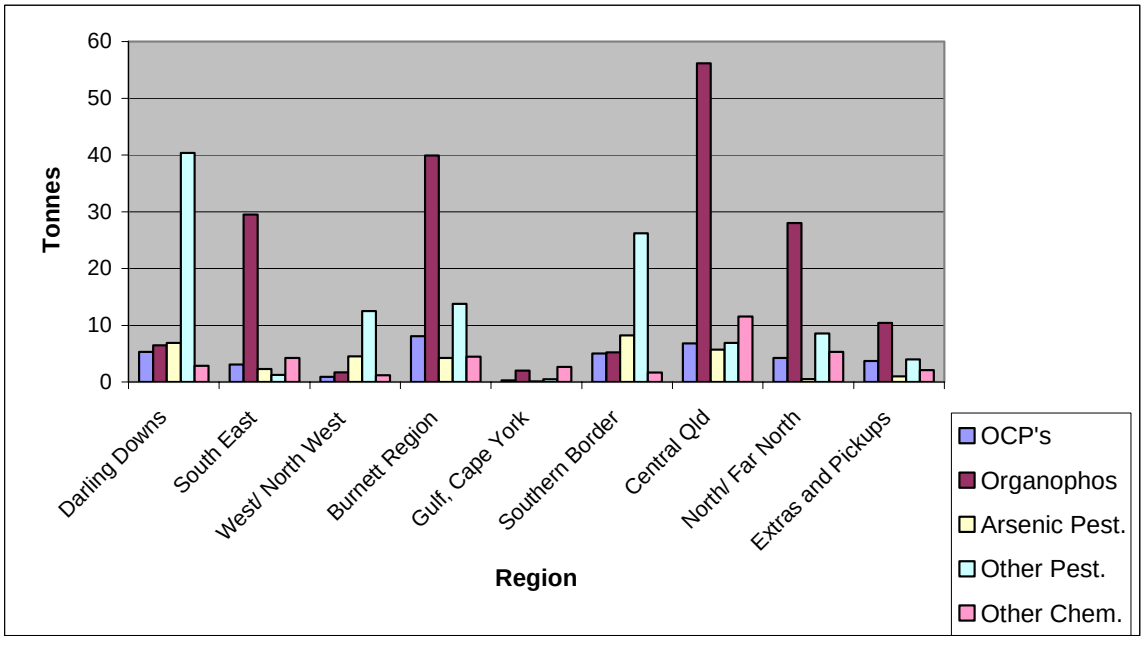


Table A 3: Tonnes of chemicals collected in Queensland regions

Phase	Region	Tonnes of chemicals collected[13]					
		OCPs	Organophos -phates	Arsenic pesticides	Other pesticides	Other chemicals	Total
1	Darling Downs	5.310	6.445	6.912	40.373	2.853	61.893
2	South East	3.090	29.510	2.275	1.225	4.230	40.330
3	West, North West	0.904	1.705	4.531	12.477	1.198	20.815
4	Burnett Region	8.055	39.884	4.228	13.780	4.487	70.434
5	Gulf, Cape York	0.306	2.017	0.091	0.473	2.643	5.530
6	Southern Border	5.046	5.203	8.205	26.211	1.643	46.308
7	Central Qld	6.800	56.167	5.687	6.909	11.561	87.124
8	North, Far North	4.240	28.027	0.508	8.544	5.332	46.651
9	Extras and pickups	3.700	10.400	1.000	4.000	2.100	21.200
Total		**37.451**	**179.358**	**33.4**	**114.0**	**36.047**	**400.285**

Figure A 3: Tonnes of chemicals collected in Queensland regions



[13] Some contractors are yet to validate the quantities of chemicals or identify all the unknowns.

Table A 4: Tonnes of chemicals collected in South Australian regions

Stage	Region	Tonnes of chemicals collected
1	Adelaide Hills, Barossa Valley	10.6
2	Lower North, Adelaide Plains	105.8
3	Mid North	59.1
4	Yorke Peninsula	4.1
5	Fleurieu Peninsula	9.9
6	Upper South East, Coorong	40.8
7	Lower South East	75.3
8	Murraylands	5.5
9	Riverland	70.1
10	Kangaroo Island	9.2
11	Murray area	44.5
12	Upper Eyre Peninsula, Whyalla, Port Augusta	59.7
13	Lower Eyre Peninsula	88.1
14	Outback	27.7
Total		**610.4**

Figure A 4: Tonnes of chemicals collected in South Australian regions

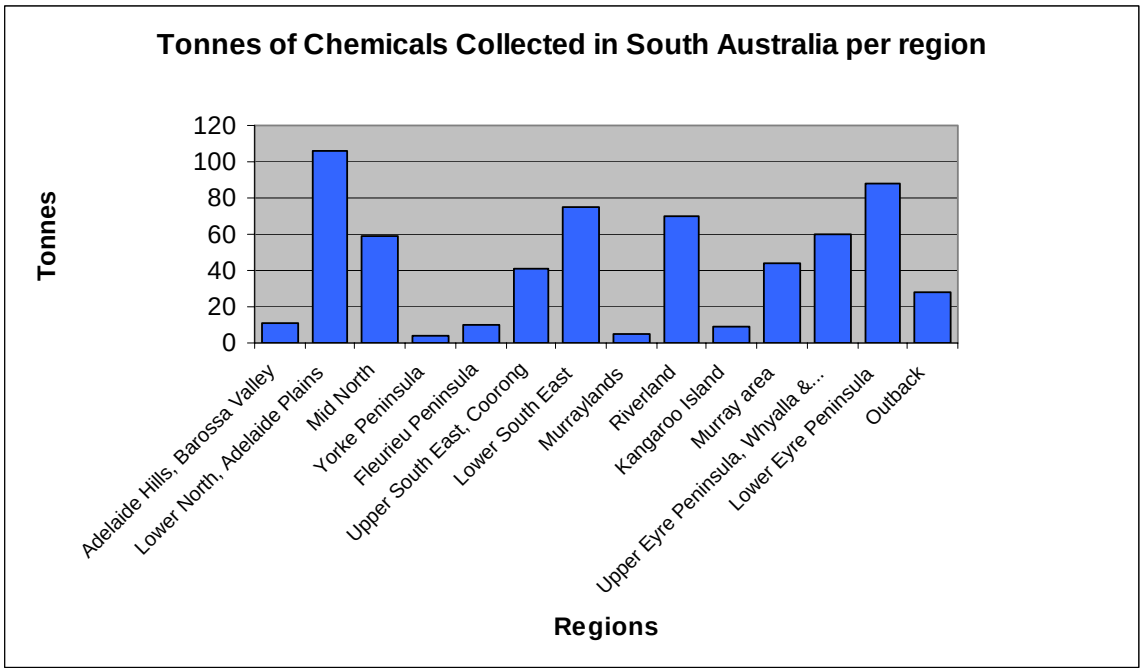
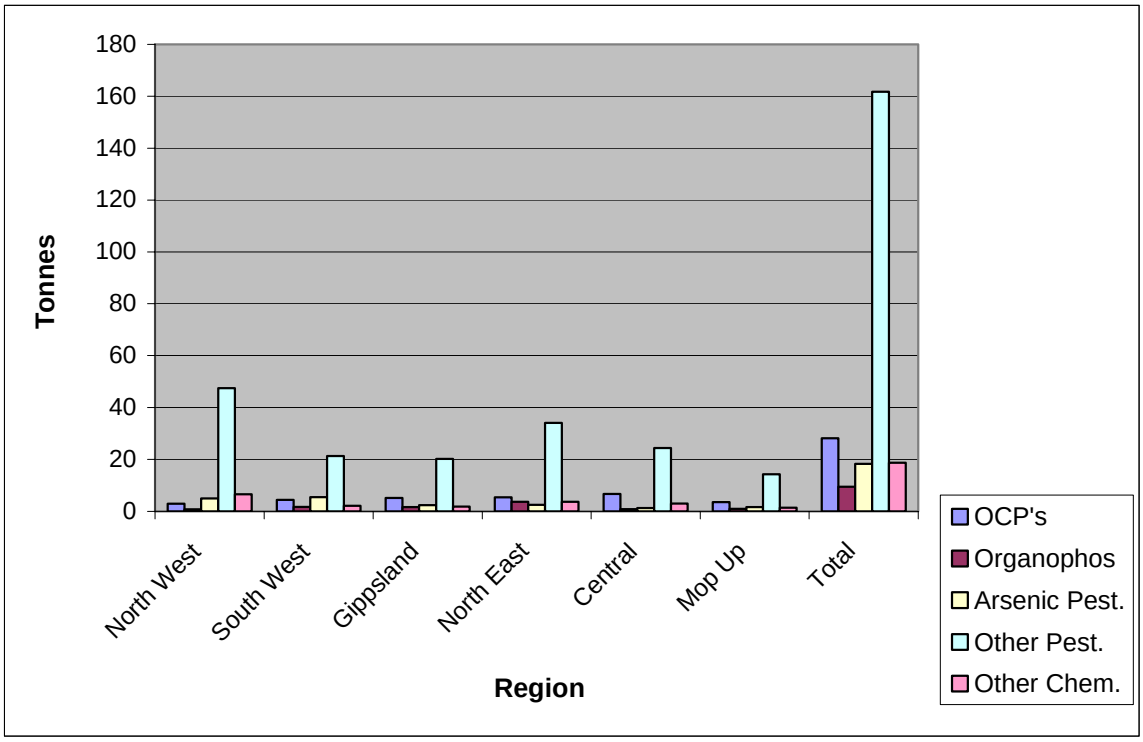


Table A 5: Tonnes of chemicals collected in Victorian regions

Region	Tonnes of chemicals collected					
	OCPs	Organo-phosphates	Arsenic pesticides	Other pesticides	Other chemicals	Total
North West	2.93	0.77	5.00	47.47	6.57	62.76
South West	4.45	1.74	5.50	21.30	2.18	35.17
Gippsland	5.18	1.59	2.41	20.21	1.85	31.24
North East	5.36	3.61	2.5	34.08	3.65	49.20
Central	6.71	0.85	1.26	24.38	3.03	36.23
Mop Up	3.57	0.98	1.57	14.26	1.42	21.78
Total	**28.21**	**9.51**	**18.24**	**161.7**	**18.71**	**236.38**

Figure A 5: Tonnes of chemicals collected in Victorian regions



APPENDIX B: QUEENSLAND COMMUNICATION PLAN

The following communication plan was prepared by the Queensland EPA before commencement of ChemCollect Queensland in 2000.

STEP 1: BACKGROUND

Opportunities

- ChemCollect is a positive project and provides the opportunity to positively promote the EPA
- ChemCollect will provide a valuable and needed service to the rural sector
- The EPA has the opportunity to be a national innovator or leader in the program, particularly in contracting for large-scale regional collections. WA has launched ChemCollect in their state, however, the other states are behind both Queensland and WA
- There is the opportunity to build valuable ties with WA to avoid 'inventing the wheel' twice. Will seek guidance and advice through the ChemCollect National Coordinating Committee
- There are well established rural networks in Queensland e.g. local government, Queensland Parks and Wildlife Service Community Nature Conservation, Department of Natural Resources, Department of Primary Industries, Landcare, Integrated Catchment Management, plus many producer groups
- There is an opportunity to promote the ChemClear message

Constraints

- There is a negative image of government in the rural sector, particularly due to the recent tree clearing issue
- Landholders may be reluctant to come forward with their illegal chemicals fearing fines/reprisal
- Minister's office involvement/influence in ChemCollect could be a constraint. However this can be a positive as well
- The ChemCollect Program in other states is lagging behind Queensland so assistance by the Australian Government may not be timely
- Local EPA offices may not be equipped or staffed to answer local enquiries. Information may not be passed on to on-ground staff who play a vital role in the dissemination of information to their rural community.
- Seasonal and weather conditions, variations in rural calendars must be considered

Potential problems

- Safety is a very important consideration in the collection/removal of chemicals
- There could be a possible backlash as dangerous chemicals are moved through populated areas

STEP 2: ChemCollect stakeholders and target audiences

Primary (must communicate with these groups to achieve ChemCollect objectives)

- Primary producers with or without chemicals. Those without may be used as a peer pressure group
- National ChemCollect Coordinating Group
- Queensland ChemCollect Implementation Advisory Group
- EPA staff - District and regional offices, head office staff include Naturally Queensland Information Centre staff
- ChemCollect contractors
- Emergency Services in each collection region
- Local government including library services
- Country Women's Associations

Secondary

- The wider community
- Non-government environment groups
- Mainstream media
- Political representatives

Intermediate (groups that can help disseminate information to primary and secondary audiences e.g. media, local government or associations)

- Chemical retailers and agents
- Media, mainly regional and rural, particularly ABC radio, including Gardening Australia
- ChemCollect contractors
- Queensland Parks and Wildlife Service/Department of Primary Industry (DPI)/Department of Natural Resources (DNR) extension networks
- Public Affairs Division and Minister's office
- Office of Rural Communities
- Local Government Association of Queensland (LGAQ)
- Local governments and related networks (particularly Environmental Health Officers)
- EPA Local Government Unit - monthly meetings
- Queensland Farmers Federation and 80 producer groups
- Landcare and Integrated Catchment Management organisations
- EPA website, also DPI and DNR
- Workplace Health and Safety networks
- Queensland Transport, Department of Emergency Services, Main Roads re safety issues, roles, and crisis communication

STEP 3: ChemCollect key messages

- ChemCollect is a one-off program, never again
- Statewide, but over three years (be patient)
- Free, Australian Government/State funded
- Chemical safety - storage, handling techniques, safety fact sheets
- How will the collection work?
- Convenient regional collection points
- Specific time and locations three weeks in advance, indicative time and locations 12 weeks in advance
- Confidential - personal details are not required
- Contact details - we must provide a 24 hour phone service, website, fact sheets
- Protects the landholder, their property and produce
- Types of chemicals to be collected
- Do not mix wastes
- Transport in original containers with original labels where possible
- Where do the chemicals go?
- Future arrangements (ChemClear)
- Separate from DrumMuster
- ChemClear

Messages for the Intermediate audience

- Offering an information service to your clients, maintaining or improving your image
- Solve chemical disposal problems that might head their way
- Protecting regional trade and livelihood
- Community good

STEP 4: ChemCollect communication objectives

Key objectives are to:

- raise awareness of ChemCollect to target groups
- develop understanding of program and how it works
- encourage positive compliance /use of ChemCollect
- note that chemicals are not to be mixed
- ensure chemical safety - safe storage and transportation of chemicals
- raise awareness that contractor is licensed and chemicals will be handled and destroyed safely and environmentally responsibly

Outcomes

- The EPA receives a high percentage (99 per cent) of key chemicals (OCPs)
- Chemicals are collected safely with no incidents
- Chemicals come in original containers, with labels and not mixed
- Contact numbers, internet site, posters and fact sheets are well used and understood.
- Participants are kept informed of their local collection outcomes e.g. what and how much was collected, leading the way for ChemClear
- EPA is seen as assisting the rural producer and caring for the environment and the community
- EPA receives positive publicity

STEP 5: ChemCollect communication strategy

It may be worth noting the steps within an environmental communication project are:

- raising awareness of issue
- gaining knowledge about issue
- providing skills to become involved in issue
- changing attitudes
- changing behaviour.

The ChemCollect communication strategy will take a four-staged approach. The awareness campaign will take place in the following phases:

- Pre-awareness
- Regional implementation
- Crisis management
- Post collection

PRE-AWARENESS

- will raise general awareness of ChemCollect in the community, with an emphasis on the rural community
- will begin two months prior to the first collection. Methods used will be:

Website - www.env.qld.gov.au. A link from the main page for easy access to information. A ChemCollect email account has been established to allow direct enquiries. It is envisaged links from DPI and DNR websites will be established (to be done). Once operational, links to the national ChemCollect site will also be established. SA have advised us they are using our style and similar content. Our website must be updated regularly as collection locations and dates are finalised - (contact is Lyn Amos.)

Articles and links for EPA staff are available on the Intranet.

Information and links available on **LGAQ net** (contact is Rachel Hinsch)

Phone hotline. Landholders are likely to access this number out of hours. An unanswered phone call on a well-advertised number is not conducive to our goals. The EPA Advisory Service number now uses an operator after hours who will take a message. These messages are emailed to ChemCollect@env.qld.gov.au. Fiona McNee takes care of all non ChemCollect messages. Stuart Cameron will take the ChemCollect queries. The feasibility of a chemical expert to answer calls will be investigated.

The message provider is Orange. Contact Tania Sullivan ph 3836 2500 fax: 3836 2934. To divert the 1800 number to this private service after hours, dial 3835 9932. Please note this is an external number so all digits must be entered for a successful diversion.

Fact sheets including safety sheets are currently being produced. These will be made available to all stakeholders. There is a fact sheet available through Canberra however there is a need for a more specific and localised production. Safety fact sheets are very important - designer is Michael Lusic - MAD concepts.

Two **posters** to be widely distributed to intermediate audiences. The first poster is a general awareness poster. The second poster will carry chemical safety information. We were careful to not produce a flash, creative poster. Simple and clear is the brief we gave to the designer - Michael Lusic - MAD concepts.

ChemCollect **drink coasters and stubby coolers** will be produced and distributed to all hotels and clubs in the target areas - designer is Michael Lusic - MAD concepts.

There are **no plans for personal phone contact** with individual landholders or direct factsheet/brochure mail-out from the EPA. This is thought to be invasive and undermining to the landholder 'anonymity' message we are trying to instill. However, inclusion of a brochure in other mail-outs (e.g. council rate notices) has not been discounted.

Sponsorship of timely and regional rural events will be assessed on an individual basis - possibly an event at the Ekka?

Media will be made aware of the impending project through press releases, articles and interviews. Feature articles e.g. *Queensland Country Life*, various publications targeting rural audience, various newsletters and producer group publications.

The following media outlets fall in the area of the first collection phase. At various stages of the collections, regionalised media releases should be sent to Western Times, Western Star, Balonne Beacon, Chinchilla News and Murilla Advertiser, Dalby Herald, Goondiwindi Argus, Northern Downs News, Pittsworth Sentinel, Toowoomba Chronicle, Clifton Courier, Allora Advertiser, radio 4VL Charleville, 4ZR and Hot FM Roma, 4GR and CFM Toowoomba, 4WK Toowoomba/Warwick.

ABC radio is critical. Queensland Country Hour (based at Toowong studios) and ABC Toowoomba are very important. ABC Longreach will reach from Roma west.

Shows/field days/open days - eg, Roma show in early May; Mitchell Show - May 14 -15; Toowoomba Farm Fest - June 20-22

Consultation, Meetings - will take any opportunity to speak with stakeholders

An **information kit** will be made available for local govt, EPA staff, extension networks (EPA, QPWS, DNR, DPI) and media. The kit will include a covering letter, 2 EPA ChemCollect brochures, two EPA posters, and one 'Safe handling of organochlorine pesticides' brochure, media releases.

CD Rom – a few ChemCollect pars will appear on the Community Nature Conservation CD Rom (the CD Rom is expected to have a relevance life of two years. This is of no cost to ChemCollect) Text for this has been forward to Peter Tarrant.

The distribution of **brochures via council rate notices or council mail-outs** is an option if the timing of distribution occurs close to or within the ChemCollect campaign timeframes. Stuart Cameron has contacted the 17 local government areas in which the first collection will take place.

Radio and print advertising will begin four weeks prior to collections commencing. These advertisements will be general information ads alerting producers to the concept of ChemCollect. More detailed ads will run two to three weeks prior to collections. These ads will include dates and times. A series of safe chemical handling ads will be run in conjunction to the time and location ads. The production of these radio ads will occur in Brisbane using a consistent talent/voice over artist, ensuring continuity of the messages and quality of production. Due to limited radio range Miles - Chinchilla, including Condamine, Tara and Moonie, may not receive effective coverage.

Suggested male voice over talent is professional v/o artist Paul Campion ph 0417 776935.

Paid advertising in Queensland Country Life is very important. Regional radio advertising is considered a cost effective avenue for information distribution. Print advertising in any papers other than Queensland

Country Life is not considered effective. It is more than likely free publicity will be provided by these papers should they be provided with localised media releases.

Advertising in producer groups' newsletter is also an option. However, free publicity is likely to be received from these groups with the provision of timely and topical print articles.

REGIONAL IMPLEMENTATION - close to collection commencement and during the initial stages of collection

- Advertising - a series of radio advertisements will be run in local/regional media. Localised media releases will minimise the need for paid advertising in regional newspapers. This advertising campaign forms the basis of the ChemCollect communication strategy. Radio and print ads in Queensland Country Life will reinforce dates, times and locations and safety aspects will commence two to three weeks prior to collections occurring. Ads outlining safe chemical handling will also be run at this stage.

All advertising must be booked through AIS media. Contact Paul Newmann 3832 2233. Paul is aware of the campaign.

Television advertising in the first trial region will not be undertaken due to limited commercial television access and the minimal viewing patterns of rural producers in western Queensland. Television advertising will occur in most other collections regions of the state - budget allowing.

The production of a series of two television ads will occur during the first collection campaign using a freelance production crew who will attend an actual collection day. The advertisements will take the form of a ChemCollect information ad with possible provision for locations and dates; and an ad highlighting not only ChemCollect but also a couple of safety messages to ensure the safe handling and transport of chemicals by landholders. Pending negotiation with TV networks (usually AIS media has to do this) The second safety ad may be produced as a Community Service Announcement and run in conjunction with the paid ChemCollect ad. EPA and Australian Government logos will appear on the ads. Anything with the Federal logo on it must be approved by the feds.

I am lead to believe that the ads must go to Premiers through Public Affairs for final approval. Subtitles for hearing impaired must also be included. Australian Caption Service in Canberra apparently do the job. Check with the Communications area in Premiers. The production house will be able to organise it all.

- **potential media launch,** not proposed, however both the Federal and State Environment Minister's may request one. (At this stage no media launches have been spoken of.) A media launch may be inappropriate for various reasons:
  i. The current political climate. Among other things, the tree clearing and Regional Forest Agreement debate has resulted in much unwanted media attention. A ChemCollect media launch will allow direct access to Senator Hill and Mr Welford, undermining the positive ChemCollect message and focusing on other rural and regional issues. There is a possibility ChemCollect message will be lost.
  ii. Location. Any successful media launch is held in a location accessible to television stations. Past experience has shown even a launch near Toowoomba is unlikely to attract media and stakeholders.
  iii. Cost. Though ChemCollect has a healthy budget, the cost and organisational time requirements could be spent on a more successful promotional event. SEE BELOW

- **production of news pieces**. In lieu of a media launch I propose:
  i. a freelance film crew/production house be hired and flown to a collection site to record the proceedings. Roma is probably the best site due to accessibility to airport and accommodation. This vision will be made available to all media outlets, giving them the vision they need without the expense of getting it themselves. This vision will also be useful to the national campaign and other states, therefore recuperation of some or most costs is a real possibility. It is proposed the TV advertisement is filmed at an actual collection site – however a film crew must not impede

participation in the collection or intimidate landholders. Use hired talent.

ii. An interview with Rod Welford, at his convenience, will be recorded by a freelance film crew.

iii. A similar interview may be recorded with Senator Hill. Canberra's cooperation is needed for this to happen. Canberra contact is Angela Gillman. 02 62500 214

iv. Vision of the chemicals being handled by the contractor, delivered and processed is also an option to be considered. As well as for education, this may be required for crisis management purposes. Emphasis should be given to the disposal processes and environment protection condition rather than the specific location of treatment, destruction or disposal facilities.

One company to ask for a quote from would be Reel Image (contact John Fidler or Alistair Brown ph 3252 5400). Also Paul Newmann 3832 2233 from AIS Media can assist you with locating a production company. This Betacam SP vision will be made available for other states' ChemCollect project teams, news outlets, current affairs programs, and rural TV programs. The vision can also be incorporated into future TV advertisements and educational videos. Angela Gillman said some of these costs could be recouped from Environment Australia and other states if they used the vision.

- A photographer (Adam Creed, Public Affairs) should be flown to a collection site, probably Roma. It should coincide with the film crew so photos could be taken using the same talent. Photographs of actual chemical drums are very hard to come by. Photos in transparency form should then be distributed with media releases.

- The first Queensland trial collection in the Maranoa/Balonne/Condamine catchments continues for over two and a half months. The awareness campaign through all intermediate audiences will continue within the region for the duration of the trial.

- Continual **print and radio media support** is envisaged throughout the trial. Ties with the ABC radio statewide rural hour and early morning regional rural programs are of particular importance. Regular and timely media releases and interviews outlining chemical quantity collection information and updates will be produced. Particular effort will be placed on gaining airtime of Landline.

- Sponsorship - opportunities will be assessed on a case-by-case basis. Sponsorship of an Ekka event

- EPA and ChemCollect signage and banners will be placed at and near collection sites etc. Directional signs may also be an option. Signs and banners being produced by Michael Lusic - MAD concepts.

- Survey forms will be produced and placed at Collection sites (to be done)

- A sausage sizzle/BBQ in conjunction with local community groups e.g., Rotary, CWA near some of the collection points in the larger regionalised areas. A friendly environment will heighten the landholders experience with a Govt initiative. It will also give us the opportunity to carry out surveys at the collection points. **The availability of good hand washing facilities are essential.** To be done.

CRISIS MANAGEMENT

Negative publicity may be forthcoming regarding the transportation of large quantities of dangerous substances through populated areas and the disposal of these chemicals.

Some green groups have been involved in the planning processes e.g. Greenpeace, National Toxics Network, Queensland Conservation Council. Due to their involvement, it is unlikely these groups will criticise the process. However, these groups must be kept informed.

The National ChemCollect Communication Strategy outlines the necessity of being prepared to rebut criticism and being in a position to provide reassuring information quickly. Fact sheets outlining the transport and disposal processes, is it safe etc, will need to be prepared. At this stage the Australian Government has not prepared these

Further negative publicity may result either from a chemical mishap on-farm or during transport from property to the collection site, despite this possibility not being included in the national communication strategy. The availability of safe chemical handling techniques information from the website, fact sheets and media will give landholders the best opportunity to avoid such incidents.

Emergency Services and Queensland Police Service offices in each collection area must be notified of the collections dates and locations in their regions, allowing them to be prepared for any such incidents. Emergency Services, Queensland Police and the contractors will be given a 24 hour phone number to contact the ChemCollect project officer should an incident occur. Public Affairs will then be immediately contacted.
Any incident and the impending media attention it may receive will be managed by the EPA Public Affairs Division. The Australian Government may also be involved though this process will have to be confirmed. Media releases addressing key points will be drafted in advanced with the cooperation of Public Affairs. The Public Affairs contact is Natasha Neale.

POST COLLECTION

Results of the campaign will be made available to the primary audience. This will include types and quantities of chemical collected and areas producing the most and least chemicals. This can be done by follow-up media releases.

The national communications plan says that information will be provided on what landholders should do in respect to storing and removing unwanted chemicals in the future, paving the way for ChemClear. ChemClear is administered by the agricultural and veterinary chemicals industry. A national coordinated approach to this stage of the campaign needs to be devised. *This will not be done in time for Queensland's needs.*

Toowoomba Ag Show Sept 5-7 (for post follow-up/surveys).

STEP 6: ChemCollect communication methods

- Advertising - print, radio and television
- Brochure/fact sheets
- Posters x 2 - 1 general info and 1 safety tips
- CD Rom - will piggy-back on a community nature conservation CD Rom
- Consultation, Meetings - will take any opportunity to speak with stakeholders
- Community Service Announcements - the second safe handling of chemicals may be produced as a CSA and run in conjunction with the paid advertisement
- Information kit for local Govt, EPA staff, extension staff and media
- Shows/field days/open days - eg, Roma show in early May; Mitchell Show - May 14 -15; Toowoomba Farm Fest - June 20-22; Toowoomba Ag Show Sept 57(for post follow-up/surveys).
- Extension staff (EPA, QPWS, DNR, DPI)
- Feature articles e.g. Queensland Country Life, various publications targeting rural audience, various newsletters and producer group publications
- Internet - EPA, Australian Government, DNR, DPI
- Robin/Intranet - articles and links for EPA staff
- LGAQ net
- Launch - though not recommended this may be a requirement of the Minister
- television features e.g. Landline
- radio interviews and information - ties with ABC radio will be particularly important
- media releases - regular media releases to regional media
- signage - for collection sites etc
- sponsorship - opportunities will be assessed on a case by case basis

APPENDIX C: DETAILED METHODOLOGY FOR COLLECTION AND DISPOSAL FOR WESTERN AUSTRALIA

Collection

The first trial collection was within the Mt Marshall Shire located 273km northeast of Perth. This is a typical wheat-belt (broad acre) area. It was chosen for two reasons, the most important being that an incident involving a 200L drum of DDT in a bushfire had focused local attention on the need to remove unwanted pesticides from the community and resulted in some representations by the local council. In addition, the trial would provide valuable information for future collections, as most of the collections in WA would be in similar areas.

For this trial, a sea-container was placed at the main town, Bencubbin. This was to allow the collected material to be stored under secure conditions and later transported under secure and safe conditions. Collections were carried out at Bencubbin and the smaller township of Beacon 50km north. Collections were carried out over four days at both sites at allotted times with at least two of the ChemCollect team in attendance at each site. The collected material was brought back to Bencubbin by trailer from Beacon each evening. Although empty drums and household hazardous waste were not actively sought, they were accepted if brought in to the collection site to prevent dumping in the bush.

All relevant safety equipment including appropriate respirators, gloves, disposable overalls, eyewash station and safety procedures were supplied at each site and where necessary to each staff member. An adequate water supply and attapulgite absorbent were provided at each site in case of spills. A forklift was hired to facilitate the loading of the container. Several members of the team had the appropriate fork-lift driver's qualification as required by Worksafe WA.
After this trial it was decided that for the next collection in the South-West region, which covers a number of local governments, the container would be left at a central depot again with a forklift available and the collection teams would radiate out further, up to 100km, to a number of sites in order to reduce the costs of shifting the container. Each team, either at the container or on the road, consisted of at least two members.

There were three central sites where the container was located: Bunbury, Margaret River and Manjimup. Collections at individual sites were generally for one day or two at most if necessary, to minimise salary and accommodation costs. There was also a collection team at the container site throughout the period of the collection. Farmers who had missed a particular collection could travel to the central site.

These collection methods were still proving to be costly and so the system was modified further.

For the remainder of the state a truck with a tautliner was hired for the collection period. This was much cheaper than a container and more flexible with regard to the siting of collections and movement between sites. It had an additional advantage of being accessible from both sides compared with a container which is only accessible from one end. The truck conformed to the dangerous goods requirements.

Some members of the ChemCollect team had the appropriate drivers and Dangerous Goods licences, so there was no reliance on a transport company to move from place to place as with the containers. One thousand litre intermediate bulk containers with the tops cut out were used for secondary containment on the back of the truck.

Where possible a forklift was available at all the sites to enable packaging to be done at ground

level and the pallets or open topped intermediate bulk container to be loaded on the truck. Where a forklift was not available the packaging took much longer, as it had to be done on the back of the truck.

The flexibility gained by use of a truck enabled the team to cover a greater area in a working week especially when a secondary team using a utility and trailer operated in tandem. This meant that there was less need for the teams to be away from Perth during weekends, which saved significantly on salary costs.

The other major change was in the operation of the collection points. Previously ChemCollect team staff had been in attendance during the collection times. Now the collection points in many cases became drop off points at secure places under the control of the local Environmental Health Officer.

The ChemCollect coordinator went to each site before collection and advised on the construction of a temporary bunded area in the absence of a permanent area. Heavy-duty plastic bags were left with the Environmental Health Officer to be given to people with leaky or unsafe drums. If a drum was too fragile to move, WA DoE officers would go to the farm to collect it.

The person bringing in the drums was responsible for unloading them into the collecting bunded area. The drums were left in the bunded area but no council staff or anyone other than the ChemCollect team would touch them. The team collected the drums, usually within a week. If there were problems such as leakage or vandalism a WA DoE team was on 24-hour call and could go to the site. This, however, was never required. Attapulgite absorbent was also provided at each site in case of spills.

Collection times were organised by the local Environmental Health Officers in consultation with the coordinator.

This scheme allowed for more sites and worked well for the smaller collection sites. In the larger towns and in the outer metropolitan area the sites were still manned by members of the ChemCollect team during collection times.

Disposal

Until December 2001, material was sorted on-site before loading into the container or truck. Material for destruction was taken directly to Eli Eco Logic in Kwinana each time the collection team returned to Perth. Only material for encapsulation or recycling was stored.

After December 2001, all the material collected was stored at a dangerous goods licensed site. Arsenic compounds were sent to the Mount Walton East Intractable Waste Disposal Facility for burial to coincide with a large-scale disposal operation.

A tender was then called for the disposal of all the remaining material, which could not be recycled. This tender was awarded to Chemsal in Victoria.

A team from Chemsal came to WA and packaged all the material at the premises of Patrick Logistics in Welshpool. The material was then transported to Victoria by road and rail. Care was taken by the WA DoE to ensure that the Victorian EPA was kept fully informed of the movement of this waste. The final 0.4 tonnes of material was packaged by WA DoE staff and consigned to Chemsal. The arsenic is to be encapsulated and returned to WA for burial at a secure landfill at a future date.

Throughout the course of ChemCollect in WA a number of people from the WA DoE rotated through the ChemCollect team. There was one constant member of the team from AgWA. All members had some safety training. All had blood samples taken for OCPs and cholinesterase before and after their time on the team. Some members received forklift training, dangerous goods training and training for a truck driver's licence.

Whether traveling with the truck, container or the utility and trailer there were always two team members present. Technical advice was always available from a chemist either traveling with the team or via a 24-hour contact phone number.

WA-NT cooperative collection

As the WA ChemCollect team had to carry out a collection in the Kimberly region in the north of the state, it was decided that a cooperative collection with the NT would have benefits to both jurisdictions.

As the areas are remote, ChemCollect was carried out in conjunction with *drumMUSTER* for both jurisdictions. *DrumMUSTER* paid for all costs specific to that program plus a proportion of the general costs. This meant cost savings for both ChemCollect and *drumMUSTER.* Members of the ChemCollect team received training as *drumMUSTER* inspectors.

Two members of the ChemCollect team drove a truck and trailer 2300km from Perth to Broome, picking up material on the way. In Broome, they were joined by two more team members, who had flown to Broome and hired a utility. Both vehicles then proceeded to Kununurra, a distance of over 1000km, collecting more material. At Kununurra all the material was packaged to keep it separate from any other material collected in the Northern Territory.

Both vehicles then proceeded to Darwin making some collections on the way. The material from WA and the NT was then sent from Darwin to Perth by sea for disposal at Eli Eco Logic at Kwinana in WA. Each jurisdiction incurred their respective disposal costs.
For details of the NT phase of this collection, see Section 3.2. The cooperative collection worked well despite the large distances and helped keep costs at a minimum for the northern WA collection and the NT collection.

APPENDIX D: CONTACTS

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CHEMCLEAR

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