RECONSIDERATION OF PRODUCTS CONTAINING SODIUM FLUOROACETATE (1080) AND THEIR LABELS

BACKGROUND TO THE REVIEW AND SCOPE DOCUMENT

JULY 2002

National Registration Authority for Agricultural and Veterinary Chemicals (NRA)

Canberra
Australia
This document is published by the National Registration Authority for Agricultural and Veterinary Chemicals (NRA). For further information about the review, contact:

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SUMMARY

The NRA has initiated the review of registration of products containing the vertebrate pest poison 1080 and the approval of associated labels. The purpose of this scope document is to request the data necessary for the NRA to conduct a comprehensive scientific assessment of 1080. It is based on information received from the public, product registrants, community groups, government departments and other sources. It outlines concerns raised in relation to the continued availability of 1080 products and specifies what aspects of product registrations the review will examine.

1080 is being reviewed because of concerns raised by community groups, individual citizens and a government agency over the possible poisoning of non-target animals both native and domestic. The purpose of this review is to ensure that the continued registration of 1080 products meets current environmental safety standards and that approved labels contain adequate instructions.

The anticipated completion dates for the key stages in the review are noted below.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical data due</td>
<td>23 August 2002</td>
</tr>
<tr>
<td>Assessment period</td>
<td>From August 2002</td>
</tr>
<tr>
<td>Draft report preparation</td>
<td>Expected late 2003</td>
</tr>
<tr>
<td>Draft report release and public comment</td>
<td>At least 8 weeks (Dec 2003)</td>
</tr>
</tbody>
</table>

It is expected that a final report for the review of 1080 will be available mid 2004.

The NRA’s review will examine the following aspects of 1080 product registrations and label approvals:

- Environmental aspects, including
  - Persistence of 1080 in baits and poisoned animals.
  - Effects on non-target animals.
  - Poisoning incidents associated with 1080.
  - Effectiveness of 1080 as a vertebrate pest control agent and its role in environmental protection.
- Animal welfare concerns.
- Assessment of product labels and associated extension material.

Data addressing the identified gaps in available information as detailed in Section 7.1 should reach the NRA by 23 August 2002.
1. **INTRODUCTION**

The NRA, as part of its Chemical Review Program, has decided to reconsider (review) the registration of all products containing sodium fluoroacetate (1080) as their active constituent, and the approval of associated labels. This review stems from concerns over environmental safety and these are detailed later in this document.

Sodium fluoroacetate (1080), (also known as sodium monofluoroacetate), is a fluorinated carboxylic acid ester with high to very high toxicity to birds and mammals. It is widely used in Australia as a poison for the control of vertebrate pests. Once ingested 1080 is metabolised to fluorocitrate. Fluorocitrate interferes with energy production in the Krebs cycle, a metabolic pathway that breaks down carbohydrates to provide energy for normal cell functions. The malfunctioning Krebs cycle results in an accumulation of citrate in the tissue and blood, energy deprivation and death. No antidote to 1080 exists.

For information on the NRA’s legislative responsibilities and The Chemical Review Program, please refer to the NRA website [http://www.nra.gov.au](http://www.nra.gov.au)

2. **NOMINATION OF THE CHEMICAL**

In October 1994 the NRA invited the public to nominate active constituents, chemical products or labels for consideration for review. Of the 600 chemical nominations, 80 were prioritised for review, one of which was 1080. Community groups, individual citizens, and one government agency nominated 1080 for review. The potential poisoning of non-target animals, both native species and domestic dogs, from either the direct taking of 1080 baits (primary) or through the consumption of poisoned animals (secondary) was the main concern associated with the use of products containing 1080 in Australia. Other concerns expressed in the nominations for 1080 in 1994 were:

- Reported breaches of guidelines for use;
- Excessive cruelty in the death of target and non-target animals;
- Concerns over the secondary impact of non-lethal doses on eggs and young of susceptible non-target species – including raptors, parrots and other native wildlife; and
- Cancellation of registration of 1080 baits in USA.

The validity of these concerns were examined as part of the scoping exercise for the review of 1080.

3. **PUBLIC COMMENTS IN RESPONSE TO NRA’S ANNOUNCEMENT OF IMPENDING REVIEW**

In December 2001 the NRA announced its intention to review the chemical 1080 in 2002. With the completion of the reconsideration of products containing pindone and associated labels, the commencement of the review of products containing 1080 is principally a continuation of the NRA's review of the vertebrate pest control chemicals nominated for review.
Before formally initiating the 1080 review the NRA investigated the issues associated with the use of 1080 in order to clearly define the scope of the review and to clearly establish the data requirements to ensure the efficiency and effectiveness of the review process. In order to do this the NRA sought information from product registrants, users, industry groups and interested parties on chemical application, accidental poisonings and possible measures to minimise these risks. This invitation was published in the NRA Gazette No 12 (December 2001) and also communicated through a media release.

This announcement of the impending review generated responses from a wide range of organisations, with approximately 250 submissions received. Responses were provided by government agencies both federal, state and local (30), environmental organisations and conservation groups (21), rural lands protection boards (28), animal welfare groups (7), industry organisations (25), community groups (3), landholders (15), media groups (7) and the general public (119). The content of these submissions varied from short testimonials through to comprehensive data packages addressing all aspects associated with the use of the chemical. A number of these submissions included copies of key papers relevant to the use of 1080 in Australia, as well as research directions already being planned and implemented.

The views on the continued registration of products containing 1080 were extremely varied. These ranged from strong support for the continued availability of 1080 from farmers, user groups and those with a conservation background, through to demands that the NRA cancel the registration of 1080 because of the pain and suffering reported in animals who have been either deliberately or accidentally poisoned by 1080. The majority of submissions indicated support for the continued availability of 1080 for vertebrate pest management in agriculture. Agricultural interests were commonly of the view that the scope of the review should be restricted to labelling and related control of use aspects, and analysis of alternatives with a focus on efficacy.

Some of the comments received in these submissions are listed below:

**Concerns with the use of 1080**
- 1080 is supposed to be used as the last resort and its supply and use closely supervised but respondent suggests that this is not the case.
- Not considered appropriate to use 1080 in closely settled country.
- Anecdotal evidence of both domestic dog and native animal deaths from inappropriate use practices e.g. lack of notification, inadequate storage of baits, deliberate poisoning.
- The current regulations regarding the use of 1080 are verging on impractical, too restrictive to facilitate good pest management in all circumstances faced by land managers. There is little room for flexibility and discretion for responsible use for certain circumstances especially crisis management.
- Not enough investment or interest into alternative practices or delivery methods.
- The primary reason for adverse outcomes connected to 1080 baits is the failure to follow the correct procedures while carrying out baiting programs.
• Too long a shelf life that encourages the storage of baits for use at a later date when the prescribed protocols of neighbour notification and signage may be ignored.
• Animals poisoned with 1080 scream, vomit, defecate and suffer violent seizures.
• The chemical has been banned in many countries and should not be used on any animals for animal welfare, environmental and human health reasons.
• Numerous anecdotal reports of the suffering of animals were provided, however, limited detail has been provided.
• The difficulty in determining whether or not 1080 is a humane poison is due to the significant variation in symptoms of poisoning between different animals. This is further complicated where there is extensive involvement of the central nervous system as is the case with 1080.
• Concern over animal injury during seizure episodes experienced with 1080 poisoning. Poisoned animals can travel significant distances during which there is the potential for serious injury to occur.

Support for 1080
• Important and effective means of controlling rabbits, foxes and other feral pests.
• Essential in the management of exotic pests in conservation projects.
• Critical to protecting unique native animal and plant life in WA and to some agricultural enterprises.
• Important tool in managing wild dogs.
• The last control measures available to reduce pest animal populations of pigs/dogs/foxes.
• An increase in the numbers of native animals after baiting programs.

Impacts of 1080 removal
• The damage to native animals populations and agricultural enterprises could be worse than the reported non-target effects of 1080 to these populations.
• Effective fox control can increase lamb marking by 15-20%, cancellation of 1080 could cost the industry $100m in sheep predation let alone the added competition effects from rabbits.
• Increased predation of native fauna by foxes and wild dogs.
• Adverse impacts on both the environmental and economic sustainability of agricultural systems.
• Further restriction of products containing 1080 could have the same impact as cancellation.
• The explosion of vermin in this country would devastate ground living wildlife and vegetation.
• Usage of more dangerous, less discriminatory poisons would exacerbate ecological imbalance and increase the risk of exotic disease incursion.
• Affects dung beetle populations (these are a favoured food source for foxes) and blackberry control (fox is a major vector for spread of this weed).
• Significant damage to crops and local aquatic areas by pigs as well as introduction of new weed species and damage to vegetation in and around billabongs.
• Precluding the availability of a legal regulated poison such as 1080 will result in many landholders utilising illegal chemicals to resolve their pest animal problems and these are likely to be non-target specific, inhumane and often ineffective.
Areas that the review should examine

- Control of use and labelling of 1080 products.
- Availability of alternatives to 1080 with similar efficacy and safety profiles.
- Advantages and disadvantages of 1080 on the environment as a whole.
- Adequacy of State and Territory bait delivery protocols.
- Aerial baiting in Tasmania for native species control.
- Non-target impact effects on all species – including native species and humans.
- Conservation benefits of applying 1080 with specific reference to threatened species conservation.
- Adequacy and non-target impacts of alternative controls - changes in registration of 1080 could encourage uptake of other less effective yet also toxic chemicals.
- Review adequacy of current procedures for recording 1080 usage – including precise locations, methods of application, type of baits etc.
- The ready-to-use baits with all the constraints in place to encourage proper use are much more humane and likely to avoid non-target animals than the crude and uncontrolled use of other delivery methods for 1080.

The work of the Vertebrate Pest Committee (VPC)

In 1996, the Vertebrate Pests Committee (VPC, a sub-committee under the then Standing Committee on Agriculture and Resource Management within the Agriculture, Fisheries and Forestry portfolio) called for a review of the policies, practices and procedures for the use of 1080 within Australia and New Zealand. The 1080 working group of the VPC conducted a review of a number of recent documents on 1080 to produce consistent recommendations on the use of 1080 across Australia. The terms of reference for this review were:

- Document and review the current information, policies, practices and procedures for the use of 1080 in Australia and New Zealand; and
- Evaluate the role and importance of 1080 in vertebrate pest management in Australia and New Zealand; and
- Recommend policies, practices and procedures necessary to ensure the future availability and effectiveness of 1080 in Australia and New Zealand.

The VPC report outlines the current 1080 policies, practices and procedures including information on uses and control measures. The goal of the working group was to examine areas where improvement can be made in the use of 1080 to allow for more efficient, safe and economical use to be made of 1080 as a vertebrate poison, and to provide balanced information to parties interested in the general use of 1080. The report from the Working Group has been made available to the NRA and will be utilised where possible in the review.

The NRA will work closely with the VPC throughout the review. There may be some areas that both groups examine, however, as the focus of both reviews is slightly different, duplication of effort will be minimised where possible.
4. REGULATORY STATUS OF PRODUCTS CONTAINING 1080 IN AUSTRALIA AND OVERSEAS

4.1 Products

As of June 2002, there were 25 registered products containing 1080. Of the 7 product registrants, 5 are State government agencies. A table summarising the details of each product involved in this review can be found in Appendix 1.

Most of the 1080 products listed in Appendix 1 are ready-to-use products, requiring no further dilution or mixing by the end user. Some of these are commercially manufactured meat baits, however, the majority of these products consist of two components and are made ‘in the field’. The first component of these baits is a delivery medium which can be one of a number of materials – oats, carrots, pellets, eggs, poultry heads and various forms of meat including ox tongues, deep fried offal and specifically prepared sausage. The second component of these baits is the poison. 1080 can be directly introduced into the medium by injection, impregnation of grain or tumble mixing with wheat or diced carrot. Alternatively it can be introduced into baits in a treated oat.

Each State has its own ‘recipes’ or techniques for preparing 1080 baits. This situation can result in the concentration of 1080 in the final baits varying considerably between States. For example, the concentration of 1080 in fresh meat baits for dingo control vary from 0.02 mg through to 0.15 mg of active ingredient per gram of fresh meat bait depending on the State concerned. The details of each ‘recipe’ used will be discussed further in the full agricultural assessment that will appear in the review report.

4.2 Supply and use restrictions

Products containing 1080 are Restricted Chemical Products according to the Agvet Code Regulations. This occurred at the commencement of the Agvet Codes in 1995.

1080 is closely regulated by government agencies under States agricultural and veterinary chemical legislation and/or poisons legislation and/or specific regulations associated with the use of 1080. The implications of this are that it may be supplied only to authorised persons. State and Territory governments regulate both the availability and use of 1080. Landholders can only obtain 1080 products (not the powder or concentrated solutions) and only through government agencies, as 1080 must be approved for supply and use by authorised officers.

The qualifications for authorised persons differ from State to State but are clearly stated in the documents that provide instructions on appropriate use of 1080 within relevant jurisdictions.

Conditions and restrictions are attached to the use of 1080 to address safety concerns. These relate to notification of neighbours, distance restrictions around sensitive areas,

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1 An ‘authorised person’ is defined on a State-by-State basis and generally is limited to a trained employee of a State Government Authority, or in some States a person who has achieved a certain level of training and competence with respect to 1080.
display of warning signs, bait preparation and placement, transport of baits, and in some jurisdictions minimum property size. Distance restrictions mainly address human sensitivities such as property boundaries, homes, public roads and domestic water supplies. These restrictions vary from State to State and will be discussed in further detail in the agricultural assessment of the full review report.

4.3 International status

Development and use of 1080 as a predacide and rodenticide occurred in the US in the 1940s, but all registrations were cancelled in 1972 together with those for other predator control agents containing strychnine and sodium cyanide. Registration of livestock protection collars was restored in 1985 and remains the only approved use in the US. 1080 is also used in Mexico and Israel, but the bulk of world usage occurs in New Zealand and, to a lesser extent, Australia. 1080 has been registered in New Zealand since 1964. It has not been assessed since this time and all other registrations have referenced the original data. New Zealand authorities are currently in the process of reviewing all aspects of the registration of 1080.
5. USE OF THE CHEMICAL IN AUSTRALIA: AGRICULTURAL ASSESSMENT

The purpose of the agricultural assessment is to provide a general overview on the way in which products based on 1080 are used in Australia. This information has been developed with input from product registrants, State Agricultural authorities, consultants and chemical users. A full agricultural assessment will be conducted for the review and this will contain specific information on 1080 use in Australia.

The use of 1080 in Australia was pioneered in the early 1950s as a rabbit poison in Tasmania. Since this time, 1080 has been approved for use in various States of Australia for the control of various vertebrate pests.

5.1 Current use patterns

There is a significant level of commonality in the main uses of 1080 between States even though products are not registered in all States. 1080 is approved for the control of the following target species:

- Vermin
- Wild dog/dingo
- Agile wallaby
- Feral pig
- Fox
- Rabbit
- Feral cat
- European red fox

The terminology ‘vermin’ could actually cover the use of this chemical for a large number of situations. Approved labels do not delineate the complete directions for use for 1080 products nor are they clear in relation to target species for a particular product and this will be examined in greater detail in the review. Those pests that are known to be controlled using 1080, but which do not appear specifically on approved labels include dingoes, Bennett’s wallaby, rufous wallaby, rats and brushtail possum.

Application of 1080 baits is by aerial or ground distribution. The actual dose rates and bait distribution rates vary on the basis of State, pest to be controlled, pest pressure and geographical situations. Aerial baiting is generally used where ground baiting is impractical, unduly costly and where the terrain is inaccessible for vehicles. Although not applicable in all States, aerial baiting is used for the control of foxes, rabbits, wild dogs and dingoes. Ground baiting is used for rabbits and browsing animals such as wallabies, possums and pademelons, and in these cases baits are laid in trails or furrows. In some cases baits are buried in specially designed mounds or tethered with wire ties to stakes to minimise taking by non-target species. Baits are individually laid for control of foxes, wild dogs, dingoes and feral pigs, again with significant variations in practices between States.

As noted above, specific directions for use do not appear on product labels, however, these directions are contained in a variety of documents, issued by individual States. These documents usually take the form of a combination of legislative initiatives (e.g. regulations) and Codes of Practice, manuals or standard operating procedures. Approved labels refer to these documents. In general, the topics covered by these manuals include (from VPC report):

- Pest biology and control.
- Sale and supply.
• Authorisation for use.
• Baiting and disposal.
• Notification and warning signs.
• Risk assessment.
• Safety and first aid.
• Training and approval.
• Labels, storage and transport.
• Use and handling.
• Accident and incident reporting.
• Record keeping requirements.

The review will examine not only current labels but also the information contained in these manuals.

5.2 Current level of use

Detailed information on the current level of use of 1080 across Australia has not been provided, however, it has been estimated that approximately 200 kg of 1080 active ingredient is used in Australia annually. Registrants will be required to provide information on the level of 1080 product supplied to the marketplace for the purposes of the review.
6. ENVIRONMENTAL CONCERNS

Suspected non-target poisoning was the main concern behind the nomination and prioritisation of 1080 for review. Some background information on the environmental concerns associated with this chemical is provided below.

Non-target animals are potentially exposed to 1080 if they consume baits or residues in poisoned animals. In some parts of Australia, non-target risks of 1080 appear to be reduced because native fauna have some tolerance to the poison, particularly in south-west Western Australia where it occurs naturally in a range of native plants.

Over 40 species of local birds and about 20 species of local mammals have been tested for their susceptibility to 1080. Canids (foxes, wild dogs, dingoes) appear to be the most sensitive animal group with respect to the toxic effects of 1080, with cats also highly sensitive. Herbivores (native and introduced) appear to be the next most sensitive group. Marsupial carnivores, native rodents, bandicoots and birds appear to have increasing tolerance. Amphibians and reptiles seem to be relatively insensitive to 1080.

Non-target poisoning incidents have been reported in Australia and overseas, mostly in dogs which are very sensitive to 1080 but also in native fauna, although less commonly than in dogs. Particular concerns have been expressed in Australia for quolls because of their sensitivity to 1080, their vulnerable or endangered status, and the likelihood that they may be exposed to 1080 by direct consumption of meat baits laid for predators or by scavenging of carcasses.

Some native herbivorous mammals and granivorous birds appear to be susceptible to poisoning by carrot or grain baits laid for control of rabbits. Similar non-target risks arise in relation to the use of carrot baits to control wallabies and possums in Tasmania.

Baits for feral pigs may be based on meat, grain or vegetables because of the pests’ omnivorous feeding habits. This raises concerns for predatory, scavenging and herbivorous non-target species, particularly as pigs appear somewhat insensitive to 1080 and require a relatively high dose.

The risk that 1080 baiting programs actually pose to individual species and populations will depend on:

- diet preferences and the bait material used;
- bodyweight ratios relevant to that of the target species;
- habitat preferences;
- the level of exposure to bait and the concentration of 1080 in the bait;
- the placement of the bait;
- the time of the year the baiting program is carried out; and
- the addition of dyes to the bait.

Given the above factors influencing non-target risk, observation of the following procedures may assist in preventing exposure of non-target species:

- Bury, conceal or secure (e.g. tether) baits.
• Mark the position of the baits so that uneaten baits can be collected and destroyed at the end of a poisoning program.
• Use baits of particular size and material that only attract, and will be consumed by, the target species.
• Only use as much bait as is necessary.
• Have the baits laid for the shortest possible time.
• Place the baits where access is limited or restricted to the target species.
• Time baiting so as to lessen exposure to other potentially susceptible pests.

The risks of poisoning non-target animals need to be compared with the risks presented to these animals by uncontrolled or less effectively controlled populations of target animals. Predation by the European red fox, competition and land degradation by feral rabbits, and predation, habitat degradation, competition and disease transmission by feral pigs are listed as key threatening processes under the Environment Protection and Biodiversity Conservation Act 1999.

The properties and use patterns of 1080 are such that contamination of air, soil or water is not expected to be significant. The poison appears to be readily degraded in soil and water through microbial activity, although it may persist under arid conditions. Degradation of 1080 also appears to occur readily in living organisms.
7. SCOPE OF THE REVIEW

Taking into consideration the reasons for nomination of 1080, all information submitted in response to the NRA’s announcement of the impending review, the information already available on this chemical and the way in which this chemical is used in Australia, the scope of the review has now been defined.

Current knowledge regarding 1080 indicates that concerns are limited to the environmental impacts of product use. Sodium fluoroacetate was not considered a priority for review on public health, residue, trade or occupational health and safety grounds and therefore the NRA does not propose to review product registrations and label approvals from these perspectives at this time. Should concerns in any of these areas be identified during the course of this review, they will be given due consideration and if necessary examined under a new review.

The following aspects of product registrations and label approvals, will be reviewed by the NRA:

- Environmental aspects, including:
  - Persistence of 1080 in both baits and poisoned animals (note: significant residues, sufficient enough to impact on populations of non-target animals are not expected to arise in air, soil or water because of low application rates and ready degradation).
  - Effects on non-target animal populations – Toxicity to birds and particularly mammals will be the priority because of their sensitivity. There will be limited consideration of less susceptible organisms (reptiles, amphibians, aquatic life and terrestrial invertebrates). Native carnivores, notably quolls but also phascogales, will receive particular attention because of their likely sensitivity to 1080, their vulnerable or endangered status, and the likelihood that they may be exposed to 1080 by direct consumption of meat baits laid for predators or by scavenging of carcases. The likely magnitude and importance of any non-target impacts will be determined.
  - Poisoning incidents – consideration of incident reports.
  - Effectiveness of 1080 as a vertebrate pest control agent and its role in environmental protection.
- Animal welfare considerations.
- Assessment of product labels and associated extension material.

A number of these areas either have been or will be examined by the VPC in considerable detail. However, to satisfy our legislative requirements it will still be necessary for the NRA to consider these areas. As noted earlier the NRA will continue to work in close cooperation with the VPC for this review.

7.1 Data requirements

Examination of the submissions for the scope document and information available has identified a number of specific areas, as outlined below, where provision of further
data is required for the review. Registrants and other interested parties are requested to examine their data holdings with a view to filling these data gaps.

- **Incident reports.** A limited number of these were described in previous submissions. Well-documented reports of non-target poisoning incidents will assist in evaluating risks.
- **Poisoning/exposure studies.** Any recent and relevant poisoning/exposure studies on Australian mammals and birds.
- **Secondary poisoning of quolls.** Work in this area has been briefly described by the WA Department of Conservation and Land Management (a study with northern quolls on the Fortescue River, as described in Landscape magazine winter 1991) and by the Tasmanian Department of Primary Industries, Water and Environment (feeding of poisoned carcases to eastern quolls, as described in Agdex 657 No 35). Original reports of the above work, and any other relevant studies on quolls, are requested.
- **Exposure of phascogales.** The Victorian Department of Natural Resources and Environment has provided a preliminary abstract (Fairbridge et al, Bait uptake by free-living brush-tailed phascogale *Phascogale tapoatafa* during simulated buried fox baiting operations in Box ironbark woodland: a preliminary study) of a biomarker study indicating exposure of a significant proportion of phascogales to fox baits. The full report of the above work, and any other relevant studies, are requested.
- **1080 implications for animal welfare** – documented studies/research into this area are requested
- **Levels of supply.** Supply statistics for 1080 over the last 3 years (from registrants who have not already provided this).

The review process may reveal data gaps that cannot be identified now. Should there be a need for additional data, registrants will be required to provide defined data to address any gaps. Other stakeholders will also be informed of those data requirements where relevant.

In response to the review announcement, the NRA received numerous testimonials and anecdotal incident reports apparently linked to the use of 1080. Testimonials and other forms of anecdotal evidence are generally not acceptable, however where sufficient supporting information is provided some use can be made of these reports.
8. NEXT STAGES IN THE REVIEW

The formal review will now commence and will deal with the aspects outlined in this scope document.

Interested parties are requested to provide data addressing the deficiencies in Section 7.1. These must reach the NRA by no later than 23 August 2002. Submissions can be sent either by email to chemrev@nra.gov.au or by mail to:

Program Manager, Pesticide Division  
National Registration Authority  
P.O. Box E240  
KINGSTON ACT 2604  
Telephone: 02-6272-3213

8.1 Announcement of the review

The availability of the review scope document coincides with the NRA’s formal announcement of the review. Registrants will be formally advised of their responsibilities as part of this review. This review will be announced widely and all those who responded to the NRA’s December 2001 announcement will be made aware of the availability of the scope document.

8.2 Data assessment

The technical assessment of data already submitted for the review of 1080 will now commence and information provided to specifically address the areas of concern noted above will also be evaluated. This assessment will be conducted by Environment Australia, an advisory agency to the NRA and will attempt to address the concerns identified in section 6.

Depending on the findings of the technical assessment, a review can result in one of three broad outcomes.

- The NRA is satisfied that products containing 1080 continue to meet the conditions to which registration or approval are currently subject and confirms the registration and approvals; or
- The NRA is satisfied that the conditions to which the registration or approval is currently subject can be varied in such a way that the requirements for continued registration or approval will be complied with, and varies the conditions of approval or registration; or
- The NRA is not satisfied that the conditions continue to be met and suspends or cancels the registration or approvals.
8.3 Consultation throughout review process

From initiation of the review through to the implementation of the review outcomes, the NRA will consult with relevant stakeholders and interested parties. Prior to finalisation of any report, comments from key stakeholders and the public will be sought.

The draft of the review summary along with proposed recommendations will be made available to the stakeholders and public through the NRA website or direct communication. A period of at least 8 weeks will be allowed for the stakeholders and the public to comment on the draft.

The availability of both draft and final reports will be announced extensively through the media. Major stakeholders will be approached directly and all reports will be made available on the NRA website.
Appendix 1
List of 1080-containing products
Registered at the time of review commencement

<table>
<thead>
<tr>
<th>NCNIS NO.</th>
<th>PRODUCT NAME</th>
<th>REGISTRANT</th>
<th>LEVEL OF ACTIVE</th>
<th>PACKSIZE (g/kg/mL)</th>
<th>USE SITUATION</th>
<th>PEST</th>
<th>STATE</th>
<th>GENERAL LABEL CLAIM</th>
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</thead>
<tbody>
<tr>
<td>42384</td>
<td>AGILE WALLABY BAIT</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>0.5 g/kg</td>
<td>7mg/bait</td>
<td>Agricultural Area - General</td>
<td>Agile Wallaby</td>
<td>VIC, WA</td>
<td>To Be Used Strictly In Accordance With Instructions Of The Agricultural Protection Board</td>
</tr>
<tr>
<td>42497</td>
<td>FERAL CAT BAITS</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>1.5 g/kg</td>
<td>6mg/bait</td>
<td>Commercial/Industrial Land</td>
<td>Feral Cat</td>
<td>WA</td>
<td>Anti-Infective – Sodium Fluoroacetate+Mercuric Chloride For The Control Of Feral Cats. Use In Accordance With Instructions By The APB</td>
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<tr>
<td>42498</td>
<td>1080 CONCENTRATE (RED)</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>30 g/L</td>
<td>100ML (UNIT=20ML)</td>
<td>Commercial/Industrial Land</td>
<td>Vermin</td>
<td>WA</td>
<td>1080 Concentrate.</td>
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<td>42499</td>
<td>1080 CONCENTRATE (BLACK)</td>
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<td>40 g/L</td>
<td>100ML (UNIT=20ML)</td>
<td>Commercial/Industrial Land</td>
<td>Vermin</td>
<td>WA</td>
<td>1080 Concentrate Black</td>
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<tr>
<td>42500</td>
<td>1080 IMPREGNATED OATS (WILD DOG CONTROL)</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>6mg/oat</td>
<td>100 OATS, 500 OATS</td>
<td>Commercial/Industrial Land</td>
<td>Vermin</td>
<td>WA</td>
<td>Use In Accordance With Instructions By The APB</td>
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<td>42501</td>
<td>ONE SHOT 1080 IMPREGNATED OATS</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>80 g/kg</td>
<td>UNIT=1 OAT</td>
<td>Commercial/Industrial Land</td>
<td>Vermin</td>
<td>WA</td>
<td>One Shot 1080 Impregnated Oats.</td>
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<td>NCRIS NO.</td>
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<td>PEST</td>
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<tr>
<td>42534</td>
<td>DRIED MEAT 1080 FOX BAITS</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>4.5 mg/bait</td>
<td>10 BAITS</td>
<td>Commercial/Industrial Land</td>
<td>Fox</td>
<td>WA</td>
<td>Use As Per Instructions By Agriculture WA</td>
</tr>
<tr>
<td>42538</td>
<td>1080 IMPREGNATED OATS (FOX CONTROL)</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>75 g/kg 4.5 mg/oat</td>
<td>12 OATS 100 OATS</td>
<td>Commercial/Industrial Land</td>
<td>Fox</td>
<td>WA</td>
<td>For The Control Of Foxes</td>
</tr>
<tr>
<td>42624</td>
<td>SPECIAL FOX BAITS</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>2.5 mg/bait</td>
<td>10 BAITS 200 BAITS</td>
<td>General Agricultural Use</td>
<td>Fox</td>
<td>WA</td>
<td>Use In Accordance With Instructions By The APB</td>
</tr>
<tr>
<td>52954</td>
<td>1080 READY-TO-LAY RABBIT OAT BAIT</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>0.4 g/kg</td>
<td>6KG</td>
<td>Animal Pest Control</td>
<td>Rabbit</td>
<td>NSW, NT, SA, TAS, VIC, WA</td>
<td>For The Control Of Rabbits</td>
</tr>
<tr>
<td>54616</td>
<td>1080 DRIED MEAT FOX BAITS</td>
<td>Agriculture Protection Board Of Western Australia</td>
<td>0.08 g/kg 3 mg/bait</td>
<td>10 BAITS 200 BAITS</td>
<td>General Agricultural Use</td>
<td>Fox</td>
<td>WA</td>
<td>For The Control Of Foxes</td>
</tr>
<tr>
<td>42450</td>
<td>1080 BAIT FOR THE CONTROL OF RABBITS</td>
<td>Animal And Plant Control Commission</td>
<td>200 mg/kg</td>
<td>NOT SPECIFIED</td>
<td>Agricultural Area - General</td>
<td>Rabbit</td>
<td>SA</td>
<td>Bait For The Control Of Rabbits.</td>
</tr>
<tr>
<td>42720</td>
<td>1080 BAITS FOR THE CONTROL OF FOXES</td>
<td>Animal And Plant Control Commission</td>
<td>3 mg/bait</td>
<td>AS PER LANDHOLDER REQUIREMENTS</td>
<td>Agricultural Area - General</td>
<td>Fox</td>
<td>SA</td>
<td>Baits For The Control Of Foxes.</td>
</tr>
<tr>
<td>40573</td>
<td>FOXOFF FOX BAIT</td>
<td>Animal Control Technologies (Aust) Pty Ltd</td>
<td>0.052 g/kg 3 mg/bait</td>
<td>17.28KG</td>
<td>General Agricultural Use</td>
<td>Fox</td>
<td>NSW, QLD, SA, VIC, NT, WA</td>
<td>For The Control Of Foxes</td>
</tr>
<tr>
<td>NCRIS NO.</td>
<td>PRODUCT NAME</td>
<td>REGISTRANT</td>
<td>LEVEL OF ACTIVE</td>
<td>PACKSIZE (g/kg/mL)</td>
<td>USE SITUATION</td>
<td>PEST</td>
<td>STATE</td>
<td>GENERAL LABEL CLAIM</td>
</tr>
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<tr>
<td>46434</td>
<td>FOXOFF ECONOBAIT</td>
<td>Animal Control Technologies (Aust) Pty Ltd</td>
<td>0.085g/kg</td>
<td>16.8KG = 4X120X35G</td>
<td>General Agricultural Use</td>
<td>Fox</td>
<td>NSW, QLD, SA, VIC, NT, WA</td>
<td>For The Control Of Foxes</td>
</tr>
<tr>
<td>49384</td>
<td>DOGGONE WILD DOG BAIT</td>
<td>Animal Control Technologies (Aust) Pty Ltd</td>
<td>0.1 g/kg</td>
<td>12 Baits 6mg/bait</td>
<td>General Agricultural Use</td>
<td>Wild Dog</td>
<td>NSW, QLD, SA, VIC</td>
<td>For The Control Of Wild Dogs</td>
</tr>
<tr>
<td>50304</td>
<td>RABBAIT 1080 OAT BAIT</td>
<td>Animal Control Technologies (Aust) Pty Ltd</td>
<td>0.4 g/kg</td>
<td>100KG 10KG</td>
<td>Rabbit Warren</td>
<td>Rabbit</td>
<td>NSW,TAS,SA, WA, VIC</td>
<td>For The Control Of Rabbits - Restricted Chemical Product</td>
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<tr>
<td>49350</td>
<td>1080 OATS RABBIT BAIT</td>
<td>Department Of Natural Resources And Environment</td>
<td>0.4 g/kg</td>
<td>20KG</td>
<td>General Agricultural Use</td>
<td>Rabbit</td>
<td>VIC</td>
<td>For The Control Of Rabbits.</td>
</tr>
<tr>
<td>49351</td>
<td>1080 CARROTS RABBIT BAIT</td>
<td>Department Of Natural Resources And Environment</td>
<td>0.2 g/kg</td>
<td>20KG</td>
<td>General Agricultural Use</td>
<td>Rabbit</td>
<td>VIC</td>
<td>For The Control Of Rabbits.</td>
</tr>
<tr>
<td>49352</td>
<td>1080 PELLETS RABBIT &amp; FERAL PIG BAIT</td>
<td>Department Of Natural Resources And Environment</td>
<td>0.480 g/kg</td>
<td>20KG</td>
<td>General Agricultural Use</td>
<td>Feral Pig Rabbit</td>
<td>VIC</td>
<td>For The Control Of Rabbits And Feral Pigs.</td>
</tr>
<tr>
<td>49354</td>
<td>1080 PREDATOR BAIT</td>
<td>Department Of Natural Resources And Environment</td>
<td>0.018 g/kg</td>
<td>AS REQUIRED</td>
<td>General Agricultural Use</td>
<td>Wild Dog</td>
<td>VIC</td>
<td>For The Control Of Wild Dogs</td>
</tr>
<tr>
<td>49355</td>
<td>1080 FOX BAIT</td>
<td>Department Of Natural Resources And Environment</td>
<td>0.013 g/kg</td>
<td>VARIABLE</td>
<td>General Agricultural Use</td>
<td>Fox</td>
<td>VIC</td>
<td>For The Control Of Foxes</td>
</tr>
<tr>
<td>42458</td>
<td>1080 BAITS</td>
<td>Department Of Primary Industries, Water And Environment</td>
<td>0.4 g/kg</td>
<td>BAIT=6G</td>
<td>Preparation Of Baits</td>
<td>Vermin</td>
<td>TAS</td>
<td>To Be Used Only With The Authority Of, And Following The Instructions Of The Department Of Primary Industry For The Control Of Vertebrate Pests</td>
</tr>
<tr>
<td>NCRIS NO.</td>
<td>PRODUCT NAME</td>
<td>REGISTRANT</td>
<td>LEVEL OF ACTIVE</td>
<td>PACKSIZE</td>
<td>USE SITUATION</td>
<td>PEST</td>
<td>STATE</td>
<td>GENERAL LABEL CLAIM</td>
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<tr>
<td>50911</td>
<td>YATHONG FOX BAIT</td>
<td>National Parks &amp; Wildlife Service</td>
<td>0.03 g/kg 3mg/bait</td>
<td>100 BAITS EACH 100G</td>
<td>NSW NPWS Managed Land</td>
<td>European Red Fox</td>
<td>NSW</td>
<td>Fox Bait</td>
</tr>
<tr>
<td>33890</td>
<td>RENTOKIL A.F. SODIUM MONOFLUOROACETATE TEnATE (1080) BRAND VERMIN DESTROYER</td>
<td>Rentokil Initial Pty Ltd</td>
<td>920 g/kg</td>
<td>227G</td>
<td>Preparation Of Baits</td>
<td>Vermin</td>
<td>ALL STATES</td>
<td>For The Manufacture Of Baits Used In The Control Of Nominated Vertebrate Pests Only</td>
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</tbody>
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