Background

1080 is a very useful toxin for the control of invasive animals and has been used throughout Australia since the early 1960s.

Fluoroacetic acid (1080) is the most humane, economic and species-specific toxin available for invasive animal control in Australia. In Queensland, 1080 is registered or used under permit for the control of wild dogs, feral pigs, foxes, feral cats and rabbits.

1080 is widely used in Australia to protect agricultural production and native flora and fauna from the impacts of invasive animals. The use of 1080 in some conservation areas allows the continued survival of rare and threatened wildlife and assists in the reintroduction of species into areas where they have previously been locally extinct.

If 1080 were not available for use to control vertebrate pests, less species-specific and less humane products would have to be used.
Properties
Some of the properties of 1080 include:

- 1080 occurs naturally in about 30 species of Australian plants, such as *Acacia georginae* (Georgia gidgee), *Gastrolobium* spp. (heart leaf poison bush) and *Oxyllobium* spp. (box poison bush). Consequently, native animal species are generally less susceptible to 1080 poisoning than introduced species.
- 1080 is water-soluble and is readily broken down by naturally occurring bacteria and fungi. It therefore does not cause a build-up of toxic residues in soil, water or plants, nor does it bioaccumulate in organisms.
- 1080 can be found in minute quantities in such common substances as guar gum and tea.

Safety information
The most target-specific toxin should be selected when undertaking a baiting program. This will minimise risk to non-target species. Of the toxins currently registered and available, 1080 is the most target-specific toxin for controlling introduced invasive species in Australia.

To further minimise non-target exposure, the following baiting strategies are recommended:

- bury or secure baits
- mark the position of baits so that uneaten baits can be collected and destroyed at the end of a poisoning program
- use baits of suitable size and material that only attract, and will be consumed by, the target species
- use only as much bait as necessary
- use the smallest dose rate that is effective
- expose baits for the shortest possible time
- place baits at a time in locations and manner that limits access and exposure to non-target species.

Availability of 1080
1080-poisoned fresh meat and grain baits can only be supplied for the purpose of controlling invasive animals by state or local government officers that have an authority under the Health (Drugs and Poisons) Regulation 1996. Baits are only supplied for the purpose of controlling invasive animals.

Landholders may purchase commercially manufactured 1080 baits from licensed schedule 7 (S7) poison retailers without an endorsement, however they must comply with the label conditions.

An individual landholder may apply to Queensland Health for an endorsement to obtain, possess and use 1080 capsules for use in canid pesticide ejectors. An endorsement holder can only purchase these products from an appropriately licensed S7 poisons retailer. Authorised officers cannot supply 1080 capsules.

An endorsement will only be granted for baiting on a property or group of neighbouring properties greater than 20 ha. Evidence of completion of two chemical use competencies is also required:

- AHCCHM303 – Prepare and apply chemicals (formerly known as RTC3704A or AHCCHM303A); and
- AHCCHM304 – Transport and store chemicals (formerly known as RTC3705A or AHCCHM304A).

Requirements for use
The use of 1080 is subject to strict regulatory controls as required by the Health (Drugs and Poisons) Regulation 1996, administered by Queensland Health.

Baits or 1080 capsules are supplied with written instructions which must be adhered. These instructions are either the product label for manufactured baits and 1080 capsules, or a deed poll undertaking in relation to the possession and use of prepared fresh meat and grain baits. These written instructions will include the following:

- baits are to be used for no other purpose whatsoever other than for the destruction of wild dogs, feral pigs, foxes, feral cats and rabbits
- only lay baits on the land as described in the written instructions (Deed poll undertaking in relation to the possession and use of prepared baits or individual Queensland Health approval)
- do not lay baits on any stock route or reserve for travelling stock without local government approval
- do not lay baits within 5 m of a fenced boundary
- do not lay baits within 50 m of the centre line of a declared road
- do not lay baits within 20 m of permanent or flowing water bodies
- do not lay any baits within 150 m of a dwelling
- owners or their agents must give at least 72 hours notification prior to laying baits to all neighbours whose property adjoins the property of the proposed baiting. Adjoining properties are properties which share a common boundary and properties which are on the other side of a road or waterway adjacent to the property of the proposed bait site
- warning signs must be placed at all entrances to the property and at the extremities of the property boundaries fronting a public thoroughfare. Warning signs must be erected immediately before baiting commences and must remain up for at least four weeks after the authorised period of bait lay has expired
- wild game harvesters should also be notified of baits being laid for at least 28 days after the program as they are required to declare that they have not removed feral pigs from areas where baiting has occurred.

Additional requirements can be implemented to manage high risk 1080 baiting. All written instructions must be adhered to.

These requirements are current as at 1 August 2019. However, requirements may be subject to future legislative changes. For example, changes proposed under the *Medicines and Poisons Bill 2019*. Visit health.qld.gov.au for information on current requirements.

Selectivity of 1080
There is considerable variation in susceptibility between species of animals. Dogs and foxes are the most susceptible of all animals to 1080. In general, birds show considerably more resistance than mammals. Cold-blooded animals such as reptiles and fish are the most resistant.
Common myths about 1080

“1080 kills everything—native animals as well as introduced invasive animals.”

Australia’s native mammals, birds and reptiles have developed much higher tolerance to 1080 than introduced animals, due to their evolution with naturally occurring 1080 in some native plants. The dose rates used in invasive animal control, coupled with responsible baiting practices, mean that native animals are minimised infrequently/rarely killed.

If non-target animals are suspected of dying as a result of a 1080 baiting program, Queensland Health should be contacted so that it can be properly investigated and, where possible, the appropriate tests undertaken.

“1080 kills only domestic dogs, it doesn’t kill wild dogs.”

All canines (wild dogs, domestic dogs and foxes) are equally susceptible to 1080 poison. This is why it is important that domestic dogs are restrained when baiting programs are being carried out.

“1080 builds up in the soil and in waterways.”

Naturally occurring bacteria and fungi found in soil, water and bait materials readily break down 1080. It therefore does not cause a build-up of toxic residues in soil, water or plants. 1080’s persistence in the environment is short-lived but depends on rainfall, temperature and amount of bacteria present.

“What if an invasive animal is poisoned with 1080 and another animal eats it? Will it affect the second animal?”

This depends on the dose used and the amount of bait consumed by the first animal, the tolerance of the second animal, the amount the animal has consumed, what part of the animal is consumed (e.g. the stomach contents will contain more 1080 than other organs and flesh), and how long the poisoned animal has been dead for. Unlike some poisons, 1080 degrades rapidly, does not accumulate in the food chain and cannot keep on killing.

“Baiting just scares the invasive animals away. After a few months they all come back again.”

Done appropriately, baiting removes most of the target animals living in the baited area. However, after a period of time, dispersing animals from surrounding areas repopulate this vacant area. This is why it is important to reduce immigration by carrying out regular coordinated control programs and using a variety of integrated controls.

“There is no effective treatment or antidote for 1080 poisoning in humans.”

There is no specific antidote for 1080 but a range of treatments may aid recovery. As with many poisons, these treatments are effective only when used soon after ingesting the poison. Emptying the stomach can get rid of most of the poison in the early stages. Sedatives and barbiturates, as well as life support measures, have also been used to give the body time to detoxify the 1080.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland on 13 25 23 or visit biosecurity.qld.gov.au.