CENTRE FOR
INVASIVE SPECIES SOLUTIONS

POSITION STATEMENT ON THE USE OF 1080

SEPTEMBER 2025

BACKGROUND

1080 or sodium fluoroacetate is a primary and vital management tool used to protect threatened native species, livestock and many agricultural assets from the impacts of rabbits, feral cats, foxes, wild dogs and feral pigs in Australia. Manufactured baits containing 1080 are available for all these species. Baits can also be prepared by hand using oats or carrots for rabbits, wet meat baits for foxes, wild dogs and feral pigs, and grain for feral pigs, dependent on the regulations within individual jurisdictions. 1080 gel is also used in Felixer grooming traps for the management of feral cats.

Fluoroacetate occurs naturally in some 30 or more native plants in Australia (Wright *et al.* 1999). These are mostly distributed across Western Australia, however some occur in the Northern Territory and far western Queensland (Twigg and King 1991). As many native animal species have co-evolved with these plant species over millennia, there is a naturally elevated tolerance in some species to the effects of 1080 (McIlroy 1981b; McIlroy 1981a).The plants do not occur in the eastern states but the native animals there still have some tolerance to 1080, unlike introduced mammals that are significantly more affected by 1080 (Twigg *et al.* 2003). 1080 breaks down relatively quickly in the environment (Saunders *et al.* 2000) and does not leave a residue after breaking down. The rate that 1080 breaks down depends on the temperature, soil moisture and rainfall. 1080 does not bioaccumulate in the food chain, with sub lethal doses metabolised in the body and excreted.

When ingested, 1080 is converted to fluorocitrate in the cells. This fluorocitrate disrupts the energy producing cycle in the mitochondria resulting in cellular energy depletion, leading to respiratory failure and death of the poisoned animal. There is generally a lag of ½ to 3 hours from ingestion to the appearance of signs of 1080 intoxication.

The use of 1080 is regulated nationally by the Australian Pesticides and Veterinary Medicines Authority (APVMA). The APVMA sets minimum standards for the use of the toxin for vertebrate pest management to reduce the risk of its use and ensure it is used effectively and safely. This includes the maximum dose of 1080 that can be applied to a bait for each target species, how many baits can be laid per hectare or linear transect, notifications that must be complied with, distances from boundaries, waterbodies, roads and buildings, how unused 1080 baits must be destroyed, and the personal protective equipment required to safely use 1080 baits. 1080 use is also regulated through poison control orders or similar by each state and territory, including how it can be used, who can use it, and which species it can be used for.

National and state-based Codes of Practice and Standard Operating Procedures outline best practice techniques and the minimum standards that need to be adhered to when baiting with 1080. These also address potential animal welfare issues applicable to the use of 1080 with each of the target species to ensure an ethical and humane approach to lethal control using 1080. The humaneness of 1080 for each target species was assessed using the humaneness matrix method developed as part of the previous Australian Animal Welfare Strategy by the NSW Department of Primary Industries and Regional Development's Vertebrate Pest Research Unit (Sharp and Saunders 2011). These assessments were conducted by

a panel that included experts in the species being managed, independent veterinarians and representatives from national animal welfare organisations.

Best practice baiting considers the benefits and precautions of baiting as well as a range of variables including the landscape, production or land management settings, the species being targeted and the potential impacts on non-target species. 1080 baiting has been very effective in reducing both the impacts and number of foxes, wild dogs, feral cats, rabbits and feral pigs on both environmental and agricultural assets (Williams *et al*. 1995; Short *et al.* 1997; Twigg *et al.* 2005; Dexter and Murray 2009; Ballard *et al.* 2020). When baiting, it is often a choice that is made between the death of an introduced species or the deaths of native species that are being impacted by that introduced species.

The small amounts of 1080 that are in baits means that the amount of toxin per hectare in the landscape is very low. A combination of using best practice for the application of baits, higher levels of 1080 resistance in native animals, and baiting in a manner that decreases the potential for non-target species to encounter the baits, means the potential for non-target animals to consume a 1080 bait is minimised.

While every effort is made to prevent non-target native animals consuming 1080 baits, there may still be non-target animals that encounter 1080 baits. Evidence from 1080 baiting programs in areas where native animals such as quolls are likely to eat fox or wild dog baits showed that there is no negative impact on individual quolls or quoll populations from the 1080 baiting and, in fact, quoll populations increased with the reduction of introduced predators (Körtner and Gresser 2004; Körtner and Watson 2005; Claridge and Mills 2007; Claridge *et al.* 2021).

Companion animals and working dogs are susceptible to 1080 intoxication if they ingest a bait. This is mitigated by requirements to notify neighbours, having signage where 1080 is used, and using muzzles on working dogs. Occasionally baits can be moved by foxes or birds, particularly corvids, and this can increase the potential for companion animals or working dogs to consume a bait. This can be minimised through burying or tethering baits, or through using Canid Pest Ejectors.

1080 is a pivotal tool in the management of introduced vertebrate pest species that significantly impact both environmental and agricultural assets. There are no widely available and effective alternative toxins, or other tools, that can be used in lieu of 1080. The PAPP toxin for wild dogs, foxes and feral cats and sodium nitrite bait (HOGGONE) for feral pigs are complementary tools rather than replacements for 1080.

CENTRE FOR INVASIVE SPECIES SOLUTIONS' POSITION ON THE USE OF 1080:

Based on the above, the Centre for Invasive Species Solutions holds the following positions on the use of 1080 for the management of introduced vertebrate pest species:

1. That 1080 use following best practice methods in accordance with the APVMA label, relevant poison control orders, and standard operating procedures is an effective, targeted and relatively humane method for managing the extensive impacts of introduced vertebrate pest species to protect environmental, agricultural and cultural assets in Australia.
2. That the risk to non-target native species populations from 1080 is very low when best practice methods for its use are followed.

3. That 1080 is an essential tool used to protect Australia's biodiversity, ecosystems and agricultural industries from the devastating impacts of introduced vertebrate pests and that the loss of 1080 as a control tool would place these assets under major threat.
4. That continued research into new toxins for the management of introduced vertebrate pests is essential and that any new toxin needs to be effective, safe, relatively humane, target specific and cost effective.

The Centre for Invasive Species Solutions acknowledges that there are differing opinions in the community regarding the use of 1080. However, the Centre maintains that this position statement is based on the best available, peer-reviewed science and is in balance with the immediate and future need for effective tools to manage populations of introduced animals that are causing intolerable and ongoing impacts to both the environment and agriculture.

Position statement issued on 09/2025. For review on 09/2026.

Further information regarding the effective management of introduced vertebrate pests can be found in the PestSmart Management Toolkits for the species being managed: https://pestsmart.org.au/pest-animals/

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