



## AWMS POSITION STATEMENT 1080

### Background

Sodium fluoroacetate (1080) is used primarily as a toxin for the control of invasive pest animals in Australia (rabbits, foxes, wild dogs and feral pigs) and New Zealand (possums, rabbits, rodents and wallabies). Less commonly by comparison, it is also used to control overabundant native herbivores in Tasmania but this use will be phased out by 2015.

Once ingested, 1080 is converted within the animal to fluorocitrate, which competitively inhibits two critical enzymes in the tricarboxylic acid cycle (the main energy producing pathway). This ultimately results in decreased energy production, which can lead to death. Some 40 plant species in Australia naturally produce fluoroacetate as a chemically-mediated defence strategy against being eaten. Most of these plants occur in southern Western Australia with two less toxic species occurring patchily across the Top End, and in Central Australia. As a result of coevolution, native animals which coexist with these plants have developed varying degrees of tolerance to fluoroacetate. This is most pronounced in Western Australia. Where it occurs, tolerance to fluoroacetate in non-target species provides an additional safety-net, but is not essential, to the conduct of safe and effective 1080-based control programs. Fluoroacetate-producing plants do not occur in South-Eastern Australia or New Zealand.

1080-baits for pest control are made from meat, grain, pastes or vegetable substrates, and contain an optimal dose for each target species. The amounts of 1080 added to the baits are small and determined by the body-mass, and the sensitivity of the target species to 1080. Various baiting methods have been developed to maximise reductions in pest animal populations, while minimising the potential for non-target poisoning. Effective 1080-based control programs result in population reductions in the order of 70-80% for canids, and 70-90% for rabbits, possums, and feral pigs although more commonly >90% for rabbits. Improvements to agricultural production, wildlife disease containment (e.g. Bovine Tuberculosis in New Zealand), and conservation values from 1080 baiting programs are well documented in the scientific literature. In Australia and New Zealand the continued survival of many threatened native species is dependant on the ongoing application of 1080 baits to lessen the threat of predation, competition, and/or habitat destruction. Potential non-target species at risk from the use of 1080 include domestic dogs and livestock but only if they are allowed access to baits or poisoned carcasses. Assessment of the potential risks to non-target native species is ongoing with a focus on research and improved management practices. The resulting refinement of baiting strategies has meant that potential non-target risks can be effectively managed with care and a common-sense approach. The use of 1080 is tightly regulated in Australia and New Zealand, and operators using 1080 products need to follow the directions for safety and use as described by the relevant label instructions. This includes the notification of neighbours prior to baiting taking place and the erection of warning signs that baits have been distributed.

A range of bacteria and fungi are capable of degrading 1080 in natural environments including soil and water. This, together with the ready leaching of 1080 through the soil profile, mean that harmful environmental contamination from properly conducted 1080-baiting programs is very unlikely. Such potential is further reduced by the current baiting regulations that minimise the potential risks to the environment and non-target species, including human health.

All poisons kill with some degree of discomfort. The amount of 1080 used in baits is critical. It is important that a dose is delivered that causes a rapid death and as short period of sickness as possible. In this regard 1080 is more humane than slower acting poisons. For some species, such as feral pigs, wild dogs and foxes in Australia, there are no other suitable pesticides available for controlling these pests. For other species, such as possums in New Zealand, other toxins (e.g. cyanide) are available for ground control, but 1080 remains a pivotal tool in the control of pest animals in both countries. Animal welfare agencies support the ongoing research and development of new, humane, and environmentally safe toxins. The recent Australian Agriculture Pesticides and Veterinary Medicines Authority review of 1080 has recommended its continued use, but with a tightening and standardisation of labels, and some other minor changes to current use patterns - see the APVMA website for details (<http://www.apvma.gov.au>).

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**Based on the above, THE AUSTRALASIAN WILDLIFE MANAGEMENT SOCIETY:**

ACKNOWLEDGES that 1080 baiting strategies provide an effective, targeted and relatively humane means for reducing the damaging impacts of invasive pest animals on agricultural production, and on native flora and fauna, in Australia and New Zealand.

RECOGNISES that there is a need for greater public discussion on the use of 1080 and to engage in community dialogue with regards to the potential risks and benefits resulting from its use. It is also recognised that pest management strategies benefit from having a range of control techniques available, and that additional target specific and cost-effective control options for pest animals (e.g. toxins) need to be investigated. That is, best practice procedures should be followed.

Is CONCERNED that there is a lack of public recognition of the need for additional wildlife management tools, including poisons, to be developed. Such agents need to be well researched, and their toxicity, target specificity, efficacy, humaneness and environmental safety be well demonstrated as part of any research and development program, and the registration process.

SUPPORTS the concept of best-practice pest animal management that includes the ongoing careful use of 1080 baits together with other suitable control options.

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**Accordingly, AWMS recommends that:**

1. Responsible and appropriate use of 1080 baits needs to be an ongoing component of integrated, best-practice management strategies for reducing the impacts of pest animals on wildlife conservation and agricultural production.
2. More effort is made to better communicate with the public with regards to the harmful effects of invasive species on the environment, agricultural production and

our cultural heritage. This should include open discussion of the potential risks and the benefits that accrue from incorporating 1080-baiting programs into integrated wildlife management strategies, the measures taken to minimise such risks, and that 1080 use is tightly regulated in Australia and New Zealand.

3. Research is undertaken to increase the number of viable options, including additional poisons, for controlling vertebrate pests. Any new option must be safe, relatively humane, target-specific, efficacious, and cost-effective. It also needs to be considered within the overall frame-work of an integrated approach.

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