



© Dave Watts



© Chris A Belcher



© Dave Watts

Images © DEWHA and associated photographers unless otherwise noted.

## Significant Impact Guidelines for the endangered spot-tailed quoll *Dasyurus maculatus maculatus* (southeastern mainland population) and the use of 1080

January 2009

### Introduction

The spot-tailed quoll *Dasyurus m. maculatus* (southeastern mainland population) is listed as endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Listed threatened species and ecological communities are a 'matter of national environmental significance'. Under the EPBC Act an action will require approval from the Minister if the action has, will have, or is likely to have a 'significant impact' on a matter of national environmental significance.

A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. You should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance.

The purpose of this policy statement is to assist you to determine whether a proposed 1080 baiting program for pest animal control is likely to have a significant impact on the spot-tailed quoll *Dasyurus m. maculatus* (southeastern mainland population), and hence whether it would require a referral under the EPBC Act.

This policy statement builds on the information and explanations in EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance.

### Spot-tailed quoll and the EPBC Act

The southeastern subspecies of spot-tailed quoll *Dasyurus m. maculatus* consists of two populations, both listed under the EPBC Act. *Dasyurus m. maculatus* (Tasmanian population) is listed as vulnerable and *Dasyurus m. maculatus* (southeastern mainland population) as endangered under the EPBC Act. This Policy Statement refers only to the use of 1080 in relation to the southeastern mainland population of spot-tailed quoll.

### What is the spot-tailed quoll?

The spot-tailed quoll is a medium-sized marsupial with colouring varying from reddish brown to dark chocolate brown, with white spots on the body and tail. Males have been recorded as weighing up to 7 kg and females up to 4 kg although the average weight for females is 1.8 kg and males 3.5 kg. The spotted tail and larger size distinguish it from other quoll species. The spot-tailed quoll breeds once a year during winter (most frequently between July and September), preys on both arboreal and terrestrial fauna (including rabbits, possums, gliders, bandicoots and birds) and is also known to feed on carrion.

### Where does the spot-tailed quoll live?

The spot-tailed quoll has been recorded in rainforest, wet and dry sclerophyll forest and woodland habitats. It has been found on the margins of farmland, but its preferred habitat includes escarpments, gullies, saddles and riparian habitat as well as rocky areas, where it finds den sites. Highly disturbed forests and exotic plantations are unlikely to be important habitat. Individual spot-tailed quolls can range over significant areas and the species is likely to occur across all land tenures. The southeastern mainland population of the spot-tailed quoll is widely distributed in southeastern Queensland, eastern New South Wales, Victoria and the Australian Capital Territory. It is extinct in South Australia.

### What other laws currently protect the spot-tailed quoll?

The spot-tailed quoll (southeastern mainland population) is listed as vulnerable in Queensland (*Nature Conservation Act 1992*), vulnerable in New South Wales (*Threatened Species Conservation Act 1995*), threatened in Victoria (*Fauna and Flora Guarantee Act 1988*) and vulnerable in the ACT (*Nature Conservation Act 1980*). Under State and Territory wildlife legislation it is an offence to 'take' a protected native animal without the required licence or permit.

### What are the threats to the spot-tailed quoll?

Threats to the spot-tailed quoll (southeastern mainland population) include land clearing and loss of habitat features, such as hollow bearing trees, logs and earth burrows; competition from foxes, wild dogs and feral cats; and mortality from predation, road traffic, poisoning and trapping. In addition, a potential threat to the spot-tailed quoll (southeastern mainland

Sustaining  
wildlife  
  
Protecting  
the Australian  
environment  
  
Tackling  
wildlife crime



© Dave Watts



© Chris A Belcher



© Dave Watts

Protecting  
the world's  
endangered  
species

population) is the impact of 1080 poison baiting control programs for foxes and wild dogs. 1080 poison baiting is also used for feral pig control, but in southeastern Australia most feral pig baiting occurs outside the core spot-tailed quoll range in areas generally not deemed to be prime spot-tailed quoll (southeastern mainland population) habitat.

### What is 1080?

Sodium fluoroacetate (also called compound 1080 but most commonly known as 1080) is a toxic powder that when diluted into a liquid is used in baits to poison pest animals, such as foxes, wild dogs, rabbits and feral pigs.

### How is the use of 1080 regulated and reviewed?

The poison 1080 is a Restricted Chemical Product (RCP). Its use in Australia is controlled by State and Territory government authorities, which all have legislative, administrative and operational safeguards in place. The poison is only available to authorised personnel who have been trained in its safe handling and usage. All States and Territories where the spot-tailed quoll (southeastern mainland population) occurs have best practice guidelines or operational policies on the use of 1080. A recent review by the Australian Pesticides and Veterinary Medicines Authority (APVMA) confirmed the limited impact of 1080 on non-target native mammals; and revised operating instructions included on the container labels to better protect non-target species. Best practice guidelines include instructions on the timing of baiting; acceptable bait deployment methods; and protocols for training of personnel, and the handling and distribution of 1080. Mandatory requirements for 1080 usage include dosage levels and bait sizes, and the distance required between baits.

### Use of 1080 in conservation programs

Several Australian Government threat abatement plans recommend 1080 as the main toxin for the control of a range of vertebrate pest species, including foxes, cats, rabbits and feral pigs. The use of 1080 is regarded as an effective and appropriate measure for abatement until such time as feasible alternatives are found. Threat abatement activities and the conservation and recovery of certain threatened species rely to varying degrees on the use of 1080. The Australian Government supports the implementation of threat abatement plans for foxes, cats, rabbits and feral pigs. While 1080 baiting may involve some risk to individual spot-tailed quolls, the species generally benefits from the reduction in feral animal populations.

### Are there alternatives to 1080 baiting?

While 1080 remains the most efficient and cost effective feral animal control method available, considerable efforts have been made to find practical alternatives and to ensure that current use is as humane as possible. Much of this work is ongoing and long term. Alternative and complementary control options for pest species include fencing, shooting and trapping, and the use of repellents or other poisons. However, none have been found to be cost-effective when used in isolation.

### 1080 baiting programs and the EPBC Act

As a listed threatened species, the spot-tailed quoll (southeastern mainland population) is recognised as a matter of national environmental significance. Any action that is likely to have a significant impact on the species will need to be referred to the Australian Government Minister for the Environment, Heritage and the Arts for a decision as to whether assessment and approval is required. A referral can also be made when the question of significant impact is uncertain. A decision will then be made within 20 business days as to whether or not approval is needed.

The Department of the Environment, Water, Heritage and the Arts (DEWHA) commissioned an independent review on the impact of 1080 baiting programs on the spot-tailed quoll (southeastern mainland population). This report concluded that a significant impact by 1080 baiting programs on spot-tailed quoll (southeastern mainland populations) is unlikely when baiting is carried out in accordance with State best practice guidelines. However, it is possible that spot-tailed quoll populations that are small, isolated or highly fragmented in the landscape could be at risk of significant impact. This report can be viewed at [www.environment.gov.au](http://www.environment.gov.au)

When baiting is proposed in habitats supporting or potentially supporting spot-tailed quolls (southeastern mainland population) it should be conducted in a manner which lowers the risk of poisoning spot-tailed quolls. For example, the type of bait that is used for the target species and the method of deployment could be modified to minimise the risks of spot-tailed quolls taking baits.

### Which 1080 baiting programs may have a significant impact on the spot-tailed quoll?

Proponents should carefully consider the issues discussed in this policy statement when planning baiting operations in potential spot-tailed quoll (southeastern mainland population) habitat and in determining whether or not an activity is likely to have a significant impact on the taxon.





© Dave Watts



© Chris A Belcher



© Dave Watts

Protecting  
the world's  
endangered  
species

Activities that may have a significant impact on the spot-tailed quoll (southeastern mainland population) include:

- baiting in, or near, known isolated or fragmented populations
- baiting in areas at the extremities of the species' known range, and
- baiting in areas not previously baited that may contain susceptible spot-tailed quoll populations.

If undertaking a baiting program in an area under Commonwealth tenure, including World Heritage areas, National Heritage sites and Ramsar wetlands listed under the EPBC Act, that have no previous history of regular baiting, the impact on the whole of the environment needs to be considered.

If you are in doubt about the likely impact of a baiting activity or program, you should discuss the proposed activity or program—before commencing—with DEWHA.

### Reducing risk to the spot-tailed quoll (southeastern mainland population)

In circumstances where populations of the spot-tailed quoll (southeastern mainland population) might be vulnerable or at risk from baiting (for example small, fragmented or isolated populations subject to drought or other stresses), target-specific methods for detecting the presence of spot-tailed quolls in an area is desirable. Strategic un-poisoned baiting, involving burying non-toxic baits and covering them with sand or raked soil allows the footprints of animals visiting to be identified prior to commencing baiting. This technique provides information about where the activity of resident target animals is concentrated, and gives some indication about what non-target animals are visiting the bait stations. Poison baits should then only be placed (to a depth greater than 10 cm) in those stations that do not receive visitation by non-target animals, including spot-tailed quolls, during the free-feeding stage. Replacing baits as they are removed by target animals until bait uptake ceases allows for the maximum removal of bait-susceptible target animals in the shortest time. At the completion of the program, all baits should be removed. Despite the cost involved in setting up and repeatedly visiting bait stations, particularly in remote or rugged country, this method of baiting is likely to have the

least adverse impact on non-target species such as the spot-tailed quoll.

When using Foxoff® baits, it is considered that free feeding or provisions to limit baiting to certain times is not necessary for quoll protection as the species has a high avoidance of this bait vector.

Where target populations of wild canids (foxes and dogs) are in remote or difficult to access areas, aerial and surface baiting programs using uncooked meat baits, injected with 1080 poison, are required. Helicopters or 4WD vehicles are used to deliver the baits into these areas. This method of delivery offers lowered target-specificity and baits may be more readily located by spot-tailed quolls. Such baiting, in some circumstances, could result in the death of a small number of spot-tailed quolls. Aerial or broadcast surface baiting should only be used in areas where it can be demonstrated that there is a low risk to spot-tailed quoll populations; and the timing of feral dog baiting should be considered to avoid the peak breeding season of the spot-tailed quoll (July to September).

Aerial baiting programs that will assist in reducing the risk to quoll populations should follow best practice guidelines for the use of 1080 according to the pesticide container label; and include GPS designated transects that allow baits to be dropped no less than 200 m apart. Many State agencies no longer conduct prebaiting surveys or trial baiting programs for spot-tailed quolls in specific areas because of their adherence to best practice methodology and the lowered risk to quoll populations.

### Where can I get more information?

A copy of the criteria used to list the southeastern mainland population of the spot-tailed quoll under the EPBC Act, as well as the listing advice, can also be obtained from the Department's website at

<http://www.environment.gov.au/biodiversity/threatened/nominations/index.html>.

Further information on the southeastern mainland population of the spot-tailed quoll may also be obtained from the websites of the following organisations:

- the Queensland Environment Protection Agency
- the NSW National Parks and Wildlife Service
- the Victorian Department of Sustainability and Environment
- the Quollseekers Network
- the Australian Museum, and
- the Queensland Museum.



© Dave Watts



© Chris A Belcher



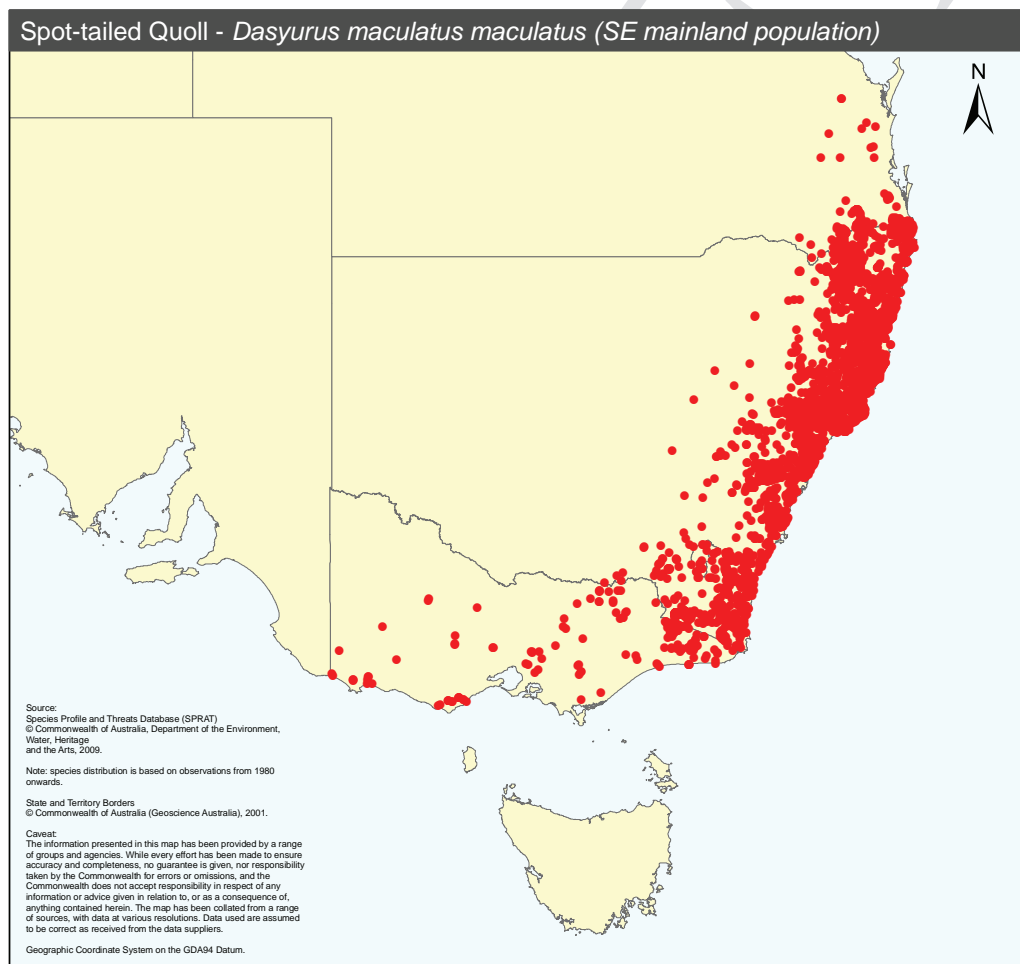
© Dave Watts

Further information on the use of 1080 can be found in the Australian Pesticides and Veterinary Medicines Authority report, Sodium Fluoroacetate Final Review Report and Regulatory Decision, January 2008, available at <http://www.apvma.gov.au/chemrev/1080.shtml>

Other EPBC Act policy statements are available to help you to understand the EPBC Act and your obligations. They are available from the Department's website at: <http://www.environment.gov.au/epbc/guidelines-policies.html>, or by contacting the Community Information Unit by email: [ciu@environment.gov.au](mailto:ciu@environment.gov.au) or by phone: 1800 803 772.

The Protected Matters Search Tool <http://www.environment.gov.au/erin/ert/epbc/index.html> can provide a good starting point for determining the likelihood of having matters of national environmental significance in your area. State and Territory Government agencies may also hold relevant information including habitat and species distribution information.

Further information including on this and other listed threatened species and ecological communities is at the Department's Species Profiles and Threats Database (SPRAT) at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.



SI004.0109

Protecting  
the world's  
endangered  
species

### Copyright

© Commonwealth of Australia 2008

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. Apart from any use as permitted under the Copyright Act 1968, all other rights are reserved. Requests and inquiries concerning reproduction and rights should be addressed to Commonwealth Copyright Administration, Attorney General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600 or posted at <http://www.ag.gov.au/cca>.

### Disclaimer

The views and opinions contained in this document are not necessarily those of the Commonwealth Government. The contents of this document have been compiled using a range of source materials and while reasonable care has been taken in its compilation, the Commonwealth Government does not accept responsibility for the accuracy or completeness of the contents of this document and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of or reliance on the contents of the document.