ADMINISTRATIVE GUIDELINES ON SIGNIFICANCE

SUPPLEMENT FOR THE TIGER QUOLL (southeastern mainland population) AND THE USE OF 1080

These guidelines provide information on the southeastern mainland population of the Tiger Quoll, *Dasyurus maculatus maculatus* (southeastern mainland population), and the use of the poison 1080 in pest animal control programs.

Four species of Quolls occur in Australia: the Eastern Quoll (*Dasyurus viverrinus*); the Spotted-tailed or Tiger Quoll (*Dasyurus maculatus*); the Northern Quoll (*Dasyurus hallucatus*); and the Chuditch or Western Quoll (*Dasyurus geoffroii*). Two of these species, the Chuditch and the Tiger Quoll, are listed as threatened species under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

The Tiger Quoll, also known as the Spot-tailed Quoll or Spotted-tailed Quoll, consists of two subspecies. The northern subspecies, *Dasyurus maculatus gracilis* (North Queensland population), also known as the Yarri, is listed as endangered under the EPBC Act. The southeastern and Tasmanian subspecies consists of two populations. The Tasmanian population, *Dasyurus maculatus maculatus* (Tasmanian population), is listed as vulnerable under the EPBC Act. The southeastern mainland population, previously listed as vulnerable under the EPBC Act, has recently been reassessed as 'endangered'. This change recognises an increased decline in the species.

What is the Tiger Quoll?

The Tiger Quoll is a medium sized mammal that may grow up to 7kg. The colour of the species varies from reddish brown to dark chocolate brown with white spots on the body and tail. The spotted tail and larger size, distinguishes it from all other quoll species. The Tiger Quoll breeds once a year in winter, 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 Tiger Quoll live?

The Tiger Quoll is a forest dependent species. It has been recorded in rainforest, wet and dry sclerophyll forest and woodland habitats. The Tiger Quoll has been found on the margins of farmland and 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 Tiger Quolls can range over significant areas (up to 4km, and males can range more than 10km in the winter mating season). The species is likely to occur across all land tenures. The southeastern mainland population of the Tiger Quoll is widely distributed in south eastern Queensland, eastern New South Wales and Victoria and has recently been recorded in Namadgi National Park, Australian Capital Territory. It is extinct in South Australia.

What other laws currently protect the Tiger Quoll?

The Tiger Quoll 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 threatened 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.

Nationally threatened species and ecological communities

There are a number of threats to the Tiger Quoll. They include: land clearing and loss of habitat areas such as hollow logs and earth burrows, competition from foxes and feral cats, injury from road traffic, poisoning and trapping. One possible threat to the Tiger Quoll is the impact of 1080 poison baiting control programs for wild dogs and dingoes.

What is 1080?

1080 (also called compound 1080 or sodium fluoroacetate) is the toxic powder used in baits to poison pest animals such as European foxes, wild dogs and feral rabbits.

How is the use of 1080 regulated and reviewed?

The poison 1080 is a restricted product and its use in Australia is tightly controlled by State and Territory government authorities which all have legislative, administrative and operation safeguards in place. All States and Territories where the Tiger Quoll occurs have best practice guidelines or operational policies on the use of 1080. Landholders can only obtain 1080 through government agencies and are usually required to undertake training courses before using and applying this product. Best practice guidelines include instructions on times of baiting, depth at which baits are laid, dosage levels, intensity, distance requirements between baits, training of personal, handling and distribution of 1080.

Use of 1080 in conservation programs

A number of Australian Government Threat Abatement Plans note that 1080 is the main toxin used in Australia for the control of a range of vertebrate pest species including rabbits, foxes and pigs. Both threat abatement activities and the conservation and recovery of certain threatened species rely to varying degrees on the use of 1080.

The Australian Government's Natural Heritage Trust is currently supporting the implementation of threat abatement plans for foxes and rabbits and is developing a threat abatement plan for feral pigs. All of these plans note that the use of 1080 is an effective and appropriate measure for abatement until such time as feasible alternatives are found.

Are there alternatives to 1080 baiting?

While 1080 remains the most efficient and cost effective feral animal control method available, alternatives are being explored. 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.

The Australian Government has supported research on the effectiveness and humaneness of existing poison baiting methods. In particular, the Government has supported work to incorporate analgesic compounds (painkillers) into 1080 baits and studies that could lead to the development of more humane poisons; reproduction control agents for pest species (e.g. cabergoline); and studies aimed at minimising the risk of poisoning non-target species.

Alternative control options for pest species include fencing, shooting and trapping, repellents or other poisons. However, none have been found to be cost-effective when used in isolation.

What has been the impact of 1080 baiting programs on the Tiger Quoll?

Much of the research to date on the impact of 1080 baiting programs on the Tiger Quoll has proven inconclusive. In some cases, aerial baiting and extensive surface baiting programs are suspected of resulting in the death of Tiger Quolls. Both aerial and surface baiting typically use uncooked meat baits injected with 1080 poison, with helicopters or 4WD vehicles used to distribute the baits. This method of delivery offers little target-specificity and baits may be readily located by Tiger Quolls.

A precautionary approach is considered appropriate when using 1080 baiting in potential Tiger Quoll habitat. Different methods of baiting need to be carefully considered before proceeding with any baiting activity.

What are the implications of changing the status of the southeastern mainland population of the Tiger Quoll from vulnerable to endangered under the EPBC Act?

The change in conservation status of the southeastern mainland population of the Tiger Quoll to endangered under the EPBC Act means that the species continues to be 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 Environment Minister for a decision as to whether assessment and approval is required.

It is an offence for any person to undertake an action that is likely to have a significant impact on the southeastern mainland population of the Tiger Quoll without approval.

For example, an activity that affects a single Tiger Quoll would not be expected to have a significant impact on the species as a whole. Similarly, ground baiting programs where the baits are buried at a depth greater than 10cm are unlikely to pose a significant threat to the Tiger Quoll as this species is known to display very little interest in baits which are buried at a depth greater than 10cm.

Activities that are likely to require referral under the EPBC Act include large scale 1080 baiting (aerial or broadscale surface baiting) as used for wild dog and dingo control in areas where the southeastern mainland population of the Tiger Quoll is known to, or potentially, occurs. Australian Government approval may be required for large scale baiting programs in these circumstances unless measures are adopted that sufficiently minimise any likely impacts on Tiger Quolls.

If you are unsure whether the activity that you are proposing will have a significant impact on the Tiger Quoll, you should discuss the particular circumstances of your proposal with the Department of the Environment and Heritage. If there is still doubt, a referral can be made at any time (before the activity commences) and you will be provided with a binding decision within 20 business days on whether or not approval under the EPBC Act is required.

Individuals and organisations should consider the particular facts and circumstances of their activities in deciding whether there is a need to make a referral under the EPBC Act. You must make a referral for an activity if you think it may be likely to have a significant impact on the species.

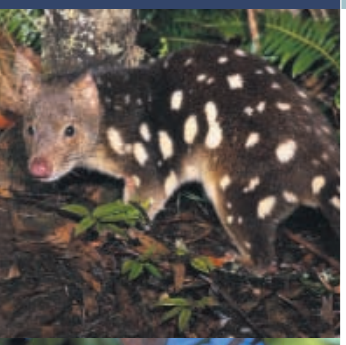
Please note that an EPBC Act approval does not remove the need to obtain the necessary State or Territory government authorisations for an activity. In addition, even if the impact of a baiting program on quolls is unlikely to be significant, an EPBC Act permit may also be required if quolls or other nationally listed threatened species on Australian Government land could be affected.

How should 1080 baiting programs be undertaken in Tiger Quoll habitat?

Proponents should carefully consider the issues discussed in these guidelines when planning baiting operations in potential Tiger Quoll habitat and in determining whether or not an activity is likely to have a significant impact on the species.

Baiting programs proposed in known or potential Tiger Quoll habitat should be examined closely to determine if they are necessary and if so, to what degree they can be designed to lower the risk of poisoning Tiger Quolls. Modifications may include altering the amount of 1080 poison contained within baits, the type of bait used, the method by which baits are deployed, the habitat into which baits are deployed and the intensity of baiting.

Adequate risk assessment, involving pre-baiting surveys and trials, should occur prior to any decision to bait in potential Tiger Quoll habitat. To the extent possible, the presence of both the pest



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species and the Tiger Quoll needs to be determined. Other considerations include the timing of the baiting program (for example, baiting activities should avoid the Tiger Quoll's peak breeding season, July to September). Aerial or broadcast surface baiting should only be used in areas where it can be demonstrated that there is a low risk to Tiger Quolls.

Where Tiger Quolls are likely to be present, the most target-specific method of baiting is strategic mound baiting. This method involves burying non-toxic baits and covering them with sand or raked soil so the footprints of animals visiting them can be identified. This encourages the resident target animals to visit the bait stations, provides information about where their activity 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 10cm) in those stations which receive regular visitation by target animals 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.

Some State pest management programs consider that free feeding is no longer necessary for quoll protection when using Foxoff baits. In such cases, strategic mound baiting is not used. Baits are buried, but no preliminary free feeding nor daily inspection to determine which animals are visiting the bait stations is undertaken.

Fox baits should in general always be buried, but strategic mound baiting may not be necessary when conducting fox control operations with certain kinds of baits. The advice of State authorities should be sought when considering whether strategic mound baiting is needed for fox control.

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 Tiger Quoll.

If you are in doubt about the likely impact of a baiting activity or program, you should discuss the proposed activity or program with the Department of the Environment and Heritage.

Where can I get further information?

Administrative Guidelines regarding what constitutes a 'significant impact', referral forms and a guide for submitting a referral can be obtained from the Department's website at **http://www.deh.gov.au/epbc** or by contacting the Department's Community Information Unit on **1800 803 772**.

A copy of the criteria used to list the southeastern mainland population of the Tiger Quoll under the EPBC Act, as well as the listing advice, can also be obtained from the Department's website at **http://www.deh.gov.au/biodiversity/threatened/nominations/index.html**.

Further information on the southeastern mainland population of the Tiger 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.