Competition from Feral Honeybees
as a Key Threatening Process – *an overview*

Questions & Answers

The NSW Scientific Committee, an independent body of scientists, has made a final determination to list "Competition from Feral Honeybees" as a Key Threatening Process under the *Threatened Species Conservation Act 1995* (TSC Act). The listing does not preclude the undertaking of commercial beekeeping activities.

Q.1 What are "Feral Honeybees"?

The term feral honeybees does not include managed honeybees. Feral honeybees are honeybees that occur in colonies independent of the hives that are managed by beekeepers. Feral honeybees are introduced bees which originally escaped from hives and have subsequently established in the wild, usually centred on tree hollows. Although little objective data is available on the distribution or abundance of feral bee colonies in NSW, feral honeybees are thought to occur patchily throughout most of the State[1], with the exception of alpine areas. In a review of all available information in Australia, Paton (1996)[2] found the densities of feral honeybees ranged from 0.1 colonies/km^2 to 77 colonies/km^2.

Q.2 What is a "Key Threatening Process"?

A **Key Threatening Process** is a recognised threat to biodiversity, particularly threatened species. It is listed under the TSC Act. No regulations or restrictions are triggered by the listing of a Key Threatening Process.

Key Threatening Processes must adversely affect 2 or more threatened species, populations or ecological communities or cause those which are not yet threatened to become threatened. Only biological factors can be considered by the NSW Scientific Committee when deciding if a process should be listed as a Key Threatening Process. See the NPWS website for more information on the NSW Scientific Committee and the listing process.

Q.3 Why is "Competition from Feral Honeybees" considered a threat to biodiversity?

Honeybees impact on biodiversity in two broad ways: via competition for tree hollows and via competition for floral resources, such as pollen and nectar.

The loss of tree hollows via occupation by feral honeybees reduces the number of hollows available for native animals to breed and shelter. This is of particular concern for species which are threatened. Hollows are an extremely important resource for many Australian animals, particularly birds and mammals. At least 20% of bird species are hollow-dependent. All tree dwelling mammals use tree hollows, and all except the Koala and the Common Ring-tail Possum are dependent upon

[1] Paton, D.C. (1996). Overview of feral and managed honeybees in Australia: distribution, abundance, extent of interactions with native biota, evidence of impacts and future research. Australian Nature Conservation Agency, Canberra.
[2] *ibid.*

hollows for shelter and breeding sites. Although hollow formation is a common characteristic of Eucalypt trees, it takes many years for hollows to form (e.g. Blackbutt, *Eucalyptus pilularis*). Tree hollows are a limited resource across today's landscape even without the impact of feral honeybees. Once feral honeybees occupy a tree hollow they commonly remain for twenty to fifty years, effectively removing the hollow as an available resource.

Feral honeybees are frequent visitors to flowers, and often remove a significant proportion of the floral resources produced. This competition from feral honeybees has the potential to displace native animals that use the floral resources. Native bees and birds such as honey eaters are particularly susceptible (e.g. black-chinned honeyeater, *Melithreptus gularis*).

Also, removal of pollen by honeybees may affect the pollination of native plant species[3].

Q.4 How does the final determination affect beekeepers and other stakeholders?

The Final Determination does not affect the keeping of managed honeybees. All current regulations regarding beekeeping practices remain in place and beekeepers are not required to alter their current practices.

Q.5 Will a Threat Abatement Plan for "Competition from Feral Honeybees" be prepared?

As a Final Determination has been made to list "Competition from Feral Honeybees" as a Key Threatening Process, the NSW National Parks and Wildlife Service (NPWS) has three years in which to prepare a Threat Abatement Plan. Although the focus of a Threat Abatement Plan is to reduce the impacts of the Key Threatening Process on biodiversity the plan must consider and minimise adverse social and economic impacts. The plan will be prepared in close consultation with the NSW Apiarists' Association, the Beekeeping Industry Consultative Committee, NSW Agriculture, university scientists and all other relevant industry and interest groups.

It is likely that further research will be required before any actions can be implemented to remove feral honeybee colonies. For example, further research to identify species most at risk from competition from honeybees is likely to be one of the key objectives of the Threat Abatement Plan. Also, effective control methods that do not affect the production or quality of commercially produced honey will have to be developed before any attempts are made to reduce feral bee colonies. Similarly, such methods will have to be shown to be safe to native insect populations.

Q.6 How would a Threat Abatement Plan affect beekeepers and other stakeholders?

The long-term aim of any Threat Abatement Plan is to reduce the impacts of the threat (the Key Threatening Process) on biodiversity. However, in some cases sufficient

[3] Paton, D.C. (1996).

information may not be available to implement a management plan. Where this occurs, the initial actions in the Threat Abatement Plan may be to undertake further research to provide the missing information. This is likely to be the case for feral honeybees.

Further research will be required to clearly identify the plant and animal species that are most at risk from competition from feral honeybees. Also, cost-effective control methods that do not affect the production or quality of commercially produced honey will have to be developed before any attempts are made to reduce feral honeybee colonies.

Once these issues have been resolved, the initial plan can be revised and may include actions to remove feral honeybee colonies. However, this will only occur with input from key stakeholders. Groups such as the NSW Apiarists' Association, the Beekeeping Industry Consultative Committee, NSW Agriculture, universities and other relevant industry and interest groups will be invited to have input into the plan. For example, the NPWS will work closely with the beekeeping industry to ensure there is a consistent and practical approach to managing feral honeybees, whilst maintaining a viable beekeeping industry.

Other issues that may need to be considered are the conditions under which feral honeybees spread and the conditions under which managed honeybees become feral. Actions resulting from such considerations may include developing methods of controlling the spread of feral honeybees at opportunistic times or the development of best practice guidelines for activities such as hive management.

Q.7 Will the keeping of managed honeybees be stopped?

The NPWS recognises the importance of the apiary industry to the NSW economy and managed honeybees were not the subject of the Final Determination. The NPWS has worked with the apiary industry to develop a policy on managed honeybees in its reserves. The policy takes a precautionary and pragmatic approach which balances the needs of apiarists with ensuring that the adverse impacts of managed hives on the environment are minimised. Equally, the NPWS will work with the apiary industry to identify measures of reducing the impacts of feral honeybees on biodiversity.

Q.8 Where can I get further information on the final determination?

All the determinations made by the NSW Scientific Committee can be viewed in full at NPWS offices, and on the NPWS website.

If you don't have web access, you can call the NPWS Information Centre on 1300 361 967 for a copy of the Final Determination or for information on threatened species.

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