

# BIOSECURITY FAILURES IN AUSTRALIA: 12 CASE STUDIES

## 7. ASIAN HONEY BEES

### A case study of a prematurely abandoned eradication effort

**Species:** Asian honey bee (*Apis cerana javana*)

**Origins:** Asia and some Asian Pacific islands. The Javan strain is native to Indonesia and has spread to Papua New Guinea.

**Australian occurrence:** The Asian honey bee was first detected in the Cairns region in 2007 and as of October 2012 was established across 500,000 hectares in far north Queensland.<sup>122</sup>

**Potential ecological impacts:** Poorly known due to limited research. The Asian honey bee is likely to compete for pollen and nectar with native birds, mammals and insects, and for nesting sites in tree crevices. It is likely to benefit weeds by increasing pollination.<sup>123</sup> An initial study found it was not possible to determine whether Asian honey bees would outcompete or displace European honeybees (also an invasive species).<sup>124</sup>



Photo: muzina shanghai(creative commons licence)

**Potential economic impacts:** Asian honeybees are likely to impact on commercial beekeepers and farmers who rely on the pollination services of managed honeybees. By competing for floral resources, robbing managed hives and transmitting disease, Asian honeybees could have detrimental impacts on European honey bees, which are themselves an invasive species that harm the natural environment. Asian honeybees are also a natural host for the varroa mite, a parasite of honeybees.<sup>125</sup> The costs also include at least \$4 million of control costs, which include \$1.3 million by the Queensland government (to February 2010), \$2.4 million by federal and state governments for the eradication program, \$500,000 by the honeybee industry.<sup>126</sup>

**Pathways:** The Asian honey bee is thought to have arrived as a nest inside parts of a ship from Papua New Guinea or Indonesian Papua.<sup>127</sup>

**Summary of biosecurity issues:** This incursion was subject to a failed eradication program, regarded by many as prematurely abandoned because some states did not want to provide financial support. A senate inquiry (by the Rural Affairs and Transport Reference Committee in 2011), triggered by concerns about the impacts on commercial beekeepers and farmers that depend on managed honey bees for pollination, concluded that the response to the Asian honey bee was flawed in several respects, including that the decision to abandon the eradication effort was not well justified and failed to apply the precautionary principle.<sup>128</sup> The committee also criticised the risk assessment for Asian honey bees used to justify the initial eradication effort as having failed to assess their potential impacts on biodiversity.

### Particular biosecurity issues

**Surveillance:** The Asian honey bee has been spreading from Asia over the past 30 years. It was detected in Papua New Guinea in 1986, then in Sabai, Dauan and Boigu (Torres Strait islands) in 1993. There has been active surveillance for Asian honeybees since a single bee was detected at the Port of Brisbane in 2003/04 on a ship from Papua New Guinea. Surveillance included monitoring of vessels by AQIS at all international ports in

<sup>122</sup> Koetz (2012).

<sup>123</sup> Biosecurity Queensland (2010).

<sup>124</sup> Commerford and Koetz (2013)

<sup>125</sup> The Senate Rural Affairs and Transport References Committee (2011)

<sup>126</sup> The Senate Rural Affairs and Transport References Committee (2011)

<sup>127</sup> Biosecurity Queensland (2013).

<sup>128</sup> The Senate Rural Affairs and Transport References Committee (2011)

## BIOSECURITY FAILURES IN AUSTRALIA: 12 CASE STUDIES

Queensland, and collaboration by Biosecurity Queensland and AQIS to establish and monitor bait hives and log traps close to wharves that provide attractive nesting sites for exotic bee swarms.<sup>129</sup> There have been 14 detected incursions into Australia, most of single bees or swarms or nests that were dead or easily destroyed.<sup>130</sup>

**Emergency response:** In May 2007, a nest of Asian honey bees was detected in the mast of a fishing boat in dry dock in Cairns and 7 live colonies were found.<sup>131</sup> The Queensland government attempted to eradicate the bees throughout 2007 and it was thought eradication had been successful but more nests were detected in July 2008. In March 2009, Queensland submitted a response plan proposing national cost-sharing to respond to the incursion. In July 2009, the National Biosecurity Committee determined that the incursion should be managed in accordance with the Emergency Plant Pest Response Deed (EPPRD). The National Management Group agreed to allocate \$3 million to eradication, with costs split in the following way: 40% federal, 40% states and territories, 20% industry funding. Funding ceased on 30 March 2011 due to a majority decision by the National Management Group that it was no longer eradicable. This was despite an independent review (commissioned by the Queensland government) saying that more information was needed to determine whether eradication was possible. The actions undertaken and the decision-making by the National Management Group are set out in the report by the Senate Rural Affairs and Transport References Committee.

Following the recommendation of the Senate reference committee, in April 2011 the consultative committee again reviewed technical advice review and failed to reach consensus on whether eradication could be achieved and then in May 2011 the national management group concluded by majority that eradication should not proceed. Government allocated \$2 million to 'support a national pilot program aimed at creating an ongoing solution to the management of Asian honeybees'.<sup>132</sup> In July 2011, the Asian honey bee Transition to Management Program was commenced.

The Rural Affairs and Transport References Committee concluded that due to scientific uncertainty and the potential spread and environmental, economic and social impacts of the Asian honey bee in Australia, 'there were no reasonable grounds on which to favour the conclusion that the pest was ineradicable'.<sup>133</sup> There is no requirement for the National Management Group to publish reasons justifying its decisions. Note also that the process is biased towards no action, with the agreement to proceed with national cost-sharing for eradication requiring consensus by all deed parties but the decision to abandon eradication was not a consensus one.

The committee said it was 'not convinced that the processes in place for the initial response to emergency plant and animal disease incursions are sufficiently capable of being appropriately adapted to deal with specific cases or incursions. In the case of the Asian honey bee, the committee is concerned that, notwithstanding the efforts of Queensland, there were insufficient resources applied to the eradication effort, given the potential consequences of the establishment of this pest in Australia.'<sup>134</sup>

The committee said there was 'an urgent need for Australia to examine its emergency plant and animal pest response strategies to ensure that any such efforts are appropriately tailored and funded to address the practical demands of eradication, taking into account the broader implications and potential consequences to Australia of the establishment of a given pest or disease.' They are concerned that 'initial efforts are not sufficiently well planned, resourced and carried out with sufficient national and technical oversight.'<sup>135</sup>

**Risk assessment:** The committee was critical that the risk assessment for the Asian honey bee incursion 'did not include an assessment of the impact on Australia's biodiversity'. This is symptomatic of the general lower priority accorded to environmental risks. The committee recommended that the environment department and relevant scientific organisations be consulted as soon as an incursion is reported to provide advice on the

---

<sup>129</sup> Biosecurity Queensland (2010).

<sup>130</sup> Biosecurity Queensland (2010).

<sup>131</sup> The Senate Rural Affairs and Transport References Committee (2011), Commerford and Koetz (2013).

<sup>132</sup> Department of Agriculture, Fisheries and Forestry (2011)

<sup>133</sup> The Senate Rural Affairs and Transport References Committee (2011)

<sup>134</sup> The Senate Rural Affairs and Transport References Committee (2011)

<sup>135</sup> The Senate Rural Affairs and Transport References Committee (2011)

## BIOSECURITY FAILURES IN AUSTRALIA: 12 CASE STUDIES

biodiversity consequences of the establishment and spread of the pest and that a written response is made to the relevant agencies as soon as possible setting out the biodiversity consequences.<sup>136</sup> ISC considers the only way to ensure the environment is adequately considered is to meaningfully involve environmental NGOs and environment departments in decision-making.

**Precautionary principle:** The Senate Rural Affairs and Transport References Committee recommended that the Consultative Committee on Emergency Plant Pests reconsider whether the Asian honey bee was eradicable and that it 'should specifically apply the precautionary principle to areas of scientific uncertainty in its reconsideration'.<sup>137</sup> ISC strongly endorses the recommendation to apply the precautionary principle.

### Issues for the inquiry

#### *Eradication decision-making*

- How can the arrangements for emergency responses be reformed to ensure that environmental issues are comprehensively considered in decision-making?
- Is the current decision-making process that requires consensus by all deed parties to proceed with cost-shared eradication an optimal one to achieve good decisions?
- How are the known high benefits of prevention and early action weighed against the short-term costs of eradication and the long-term impacts of a new species and how do the benefits of eradication impact on the willingness to conduct an eradication and the resources allocated to that eradication?
- Should the precautionary principle be applied when full scientific information is lacking about the potential impacts of a species or the feasibility of eradication?
- In what ways should the environment department, environmental experts and environmental NGOs be involved in decision-making about responses to incursions?

### References

Biosecurity Queensland. 2010. *Response Plan for Apis cerana in North Queensland*. Queensland Government Department of Agriculture, Fisheries and Forestry.

Biosecurity Queensland. 2013. Asian honey bees in Queensland.( <http://www.daff.qld.gov.au/animal-industries/bees/diseases-and-pests/asian-honey-bees>).

Department of Agriculture, Fisheries and Forestry. 2011. Communique: National group supports work of Asian Honeybee Coordination Group. 19 July 2011.

Koetz A. 2012. *Spread of Apis cerana in Australia, 2007 – 2012*. Asian honey bee Transition to Management Program. Queensland government Department of Agriculture, Fisheries and Forestry.

Commerford M, Koetz A. 2013. *Ecology and behaviour of Asian honey bees (Apis cerana) in Cairns, Australia*. Asian honey bee Transition to Management Program. Queensland government Department of Agriculture, Fisheries and Forestry.

The Senate Rural Affairs and Transport References Committee. 2011. *Science underpinning the inability to eradicate the Asian honey bee*. Commonwealth of Australia.

---

<sup>136</sup> The Senate Rural Affairs and Transport References Committee (2011)

<sup>137</sup> The Senate Rural Affairs and Transport References Committee (2011)