CASE STUDY:
RED-EARED SLIDER TURTLE

UPDATED: NOVEMBER 2017

A case study of the risks associated with illegal pet keeping.

Species

Red-eared slider turtle (*Trachemys scripta elegans*, subspecies elegans).

Origin

Southern United States.

Australian occurrence

Breeding populations have been found in NSW and Qld, and individual specimens have been detected in the wild in Victoria, ACT and WA.[1] The Queensland populations have probably been eradicated but nothing has been done about the eight identified populations in NSW.[2]

Potential environmental impacts

Red-eared slider turtles are rated as one of the world's worst invasive species.[3] A risk assessment by the Queensland government found there is 'considerable evidence that red-eared sliders can negatively affect locally native turtle species' – they mature more quickly than local species, are more aggressive, have higher fecundity and grow larger.[4] They could cause declines in rare frogs and other aquatic animals they prey on. Tadpoles of native frog species may not be able to recognise a new exotic predator.[5] Burgin (2006) said they show 'all of the hallmarks of being the reptile equivalent to the carp' for their impacts on wetland biodiversity.

There is a significant risk of captive bred red-eared slider turtles spreading diseases and parasites into wild reptile populations.[6] This may be a greater risk for biodiversity than the turtles themselves.[7] There is evidence that a malaria-like blood parasite was transferred to two native turtle species from infected red-eared slider turtles in the Lane Cove River, Sydney.[8]

Red-eared slider turtles have been rated one of the world's worst invasive species.
Photo: Jim, the Photographer | Flickr | CC BY 2.0

Potential social and economic impacts

Unless red-eared sliders are eradicated, the costs of control to protect species at risk could be substantial. The Queensland government spent close to $1 million to eradicate them from seven sites, and removed them from at least 10 additional locations.[9] This investment could be wasted unless there is continued education and vigilance to prevent the establishment of new populations. There could also be costs to industry. In the US, red-eared sliders are regarded as a threat to aquaculture.

Pathways

Red-eared sliders are released into the wild by people illegally keeping them as pets. They are the world's most commonly traded reptile, due to low price, small size and easy maintenance.[10] Because they can live for decades and inflict painful bites, many are dumped into the wild.[11]

BIOSECURITY ISSUES

Summary

There have been varying degrees of action by state governments, ranging from a concerted eradication effort by Queensland to almost no action by NSW. Australia needs a national strategy and an intensive education and compliance program to stop illegal keeping. There is a high risk of continued illegal releases of this threatening invader into the wild.

Illegal keeping

Red-eared sliders are one of the most commonly smuggled and illegally released wildlife species in Australia. From 1999 to 2010 at least 67 were seized in five interceptions at the border, at least 115 being kept as illegal pets were seized, and more than 235 were detected in the wild in the ACT, NSW, Qld, Vic and WA.[12] The extent of illegal activity detected suggests a very high risk of new incursions and a high risk of new disease introductions. Henderson and Bomford (2011) recommend 'priority be given to educating the public, particularly through media coverage, about the risks posed by red-eared sliders, so that people are less likely to keep or release them, and are more likely to recognise and report sightings.'

In 2004, an eight week national exotic reptile amnesty granting exemption

Red-eared slider turtles are the world's most commonly traded reptiles.
Photo: TheLugash | Flickr | CC BY-NC-ND 2.0

from prosecution for those who forfeited illegally kept animals resulted in 18 red-eared slider turtles being turned in. As part of an eradication program in Queensland, a focus on illegal keeping resulted in the prosecution of one breeder. But the fine was small, and no conviction was recorded.

Queensland response

A population of red-eared sliders was detected north of Brisbane in 2004 in six dams and one private breeding facility. A public awareness campaign resulted in the detection of two other populations.[13] The outbreak in Queensland was traced to an illegal breeding facility. Eradication of the known populations, costing about $1 million, is thought to have been successful.[14] It was the first program of its kind to eradicate these turtles. New DNA probe technology developed as a result of the project has the potential to reduce the cost of future eradication or management programs, perhaps by a factor of ten.[15]

NSW response

Surveys in 2009 and 2016 revealed several small populations of red-eared sliders in NSW,[16] but there has been no attempt to eradicate them, seemingly due to a lack of appreciation within government of the harm they could cause to native wildlife. Burgin (2006b) warned that the cost of immediate removal of emerging populations would 'be insignificant in comparison to the longer term management of their impacts'.

WA and Victoria responses

Several sliders have been removed from urban waterbodies in these states. Whether there are established populations is uncertain. Surveys are needed.

Prevention

Participants at a 2006 workshop on red-eared slider turtles proposed the development of a national strategy, to include a risk assessment, a national taskforce to coordinate activities, standard operating procedures for management, a review of ways to reduce risks from the exotic reptile trade, and a communications plan and research.[19] The strategy has not eventuated.[20]

CHANGES NEEDED

A national response

- A national strategy should be developed

OUR MISSION

To protect the environment from harmful new invasive species through prevention and early action.

Stronger biosecurity is vital to protect the highly endemic wildlife of Australia and its many special wild places. This is Lord Howe Island, where invasive species have already caused several extinctions.
Photo: Robert Whyte

to coordinate responses to illegally kept species such as red-eared slider turtles.

Eradication

- Populations of red-eared slider turtles should be surveyed and eradicated.

ABOUT OUR CASE STUDIES

Our case studies illustrate the need for changes in how Australia prevents the establishment of new invasive species. They were compiled using publicly available information at the time of the last update. We would welcome new information or updates to biosecurity response for inclusion in future updates.

CONTACT US

- Visit invasives.org.au for more information about the Invasive Species Council and to get in touch.

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ENDNOTES

1 Csurhes and Hankamer (2012).

2 NSW Department of Primary Industries (2017).

3 Lowe et al. (2000).

4 Csurhes and Hankamer (2012).

5 Polo-Cavia et al. (2010).

6 Csurhes and Hankamer (2012).

7 Illegally smuggled specimens are likely to have passed through Asian wet markets, where they are housed in terrible conditions with multiple species from all over the world. Reptile diseases are hard to detect, with some having long incubation periods (Scott O'Keefe, personal communication).

8 Department of Agriculture and Food (WA) (2009).

9 Csurhes and Hankamer (2012), Scott O'Keefe (personal communication).

10 Csurhes and Hankamer (2012).

11 Csurhes and Hankamer (2012).

12 Henderson and Bomford (2011).

13 Csurhes and Hankamer (2012).

14 DAFF (2012), Csurhes and Hankamer (2012).

15 Scott O'Keefe (personal communication).

16 NSW Department of Primary Industries (2017).

17 WA Department of Agriculture and Food (2009), Victorian Department of Environment and Primary Industries (nd).

18 Anonymous (2009).

19 O'Keefe (2006).

20 There has been considerable work on Europe on this species. France, Italy, Portugal and Spain have a cooperative control program based on techniques initially developed in the Qld program (Scott O'Keefe, personal communication). They have made substantial use of detection dogs and ground penetrating radar to locate nests.