4 April 2013, 11.16am AEST

Australian endangered species: Hairy Marron

AUTHOR

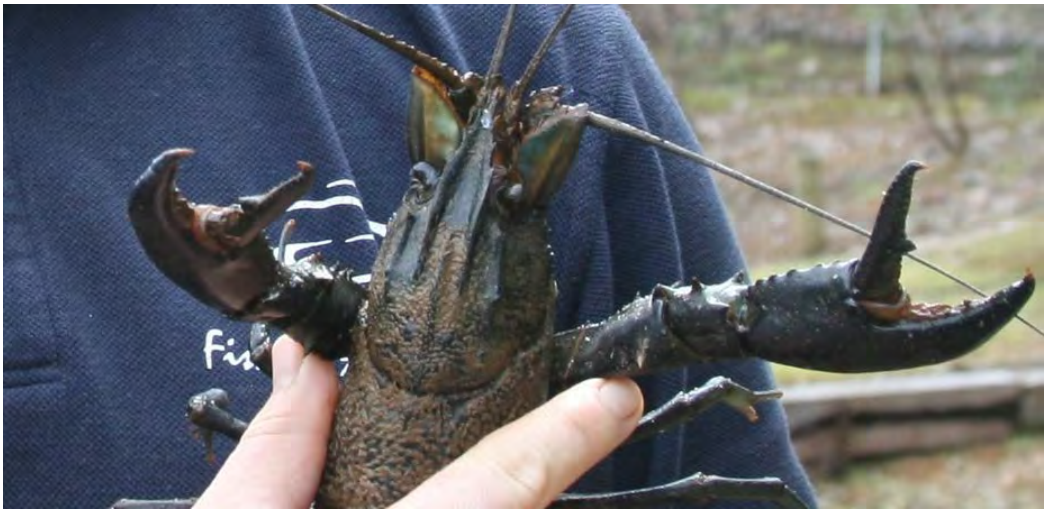
Annette Koenders
Senior Lecturer at Edith Cowan University

DISCLOSURE STATEMENT

I have received funding from the Australian Biodiversity Resources Survey, the Department of Conservation WA and the Department of Water WA.

Edith Cowan University does not contribute to the cost of running The Conversation. Find out more.

The Conversation is funded by CSIRO, Melbourne, Monash, RMIT, UTS, UWA, Canberra, CDU, Curtin, Deakin, Flinders, Griffith, JCU, La Trobe, Massey, Murdoch, Newcastle, QUT, Swinburne, UniSA, USC, USQ, UTAS, UWS and VU.



The Hairy Marron is so called for the tufts of crayfish hair all over its body. Craig Lawrence

Marron are a large, iconic freshwater crayfish endemic to the southwest of Australia. Most Western Australians have been “marroning” in their youth. The tail meat is a delicacy prized by recreational and commercial fishers alike.

Marron prefer cool, well-oxygenated permanent water. Unlike many other Australian freshwater crayfish, they are poor burrowers.

In 2002, marron were officially split into two species **based on genetics**. The Smooth Marron, *Cherax cainii* was given a new name, and the Hairy Marron, *Cherax tenuimanus* retained the old name. The Smooth Marron is widespread and the most well known. In contrast, the Hairy Marron is restricted to the Margaret River. The Hairy Marron is aptly named for the tufts of hair-like **setae** that cover its shell.

Status

TAGS

Australian endangered species, Crayfish

RELATED ARTICLES

Hairy Marron are unfortunately declining rapidly in their natural habitat, mainly due to competition with Smooth Marron which **invaded the Margaret River** some time during the early 1980s. Crayfish geneticist Chris Austin sampled sites in the Margaret River and found Smooth Marron for the first time in 1985. By 1998 there were no Hairy Marron. It is not known how Smooth Marron invaded the Margaret River, but **translocation** by humans seems likely.

The Hairy Marron is now virtually absent from the lower reaches of the river downstream of Margaret River township, completely absent from the middle reaches in farmland, and still present in pools of the upper reaches in relatively undisturbed woodland. It was estimated in 2004 that less than 10,000 individuals were left in the wild.

Consequently, the Hairy Marron has been listed as “fauna that is rare or is likely to become extinct” under State legislation, and “critically endangered” on both **federal** and IUCN lists.

Threats

Threats to the Hairy Marron include changes to habitat, both of the river and surrounding land. The area is a popular tourist destination and wine growing area. Illegal fishing is still a problem. However the most significant threat at the moment is the presence of the Smooth Marron.

The biological and ecological differences between the two marrons are subtle and not yet fully understood. There is evidence that the two species mate and hybridise. Perhaps 10% or more of the remaining population of Hairy Marron are hybrids.

Evidence is emerging that the timing of the reproductive season differs between the species. Female Smooth Marron spawn at least a month before Hairy Marron, giving the young crayfish a headstart.

Strategy

The Western Australian Department of Fisheries **leads the recovery team** for the Hairy Marron which was established in 2005.

12 September 2013

Australian endangered species: Bramble Cay Melomys

29 August 2013

Australian endangered species: Leckie’s Crayfish

22 August 2013

Australian endangered species: Gulbaru Gecko

22 August 2013

Let’s put threatened species on the election agenda

15 August 2013

Australian endangered species: Leatherback Turtle

The Department has a **captive population** to provide genetic brood stock, but there is a high proportion of hybrid animals in this population. Ensuring the brood stock are 100% genetic Hairy Marron is proving difficult. It is also an issue with crayfish conservation in other parts of the world.

Recreational fishing for marron in the upper reaches is banned, although enforcement is difficult because of the remoteness of this habitat.

These initiatives are combined with regular fish outs of Smooth Marron in the upper reaches, led by fisheries staff and frequently involving the local community, such as the **Cape to Cape Catchments Group**.

Although some hybrids are likely to be returned to the river during these fish outs, most hybrids look like Smooth Marron, so it is unlikely pure “hairies” will be caught accidentally. No study has been undertaken of the efficacy of the fish outs, but at this stage it appears they have only slowed the decline of the Hairy Marron.

Conclusion

A number of Australian freshwater crayfish species are currently under threat (see **Spiny** and **Rain** crayfish), including three species of burrowing crayfish endemic to the south-west. However the Hairy Marron is the only Australian freshwater crayfish so far known to be threatened from biological invasion. The plight of the Hairy Marron highlights the potential danger of translocating flora and fauna. How often has this already happened, and resulted in extinctions without our knowledge?

The ultimate aim of conservation for threatened species is to recover population numbers and remove threats. This still appears far off for the marron which will also have to cope with the drying climate in the region.

It is therefore entirely unclear whether the Hairy Marron, only recognised as a species a decade ago, will still be found in its natural environment in another decade. The speed with which this species has declined is extremely alarming and, so far, there is very little evidence of any recovery. At best the Hairy Marron is just hanging on.

*The Conversation is running a series on Australian endangered species. See it **here**.*

ARTICLES ALSO BY THIS AUTHOR

18 July 2013
Australian endangered species: Margaret River burrowing crayfish

Join the conversation

To comment or recommend, sign in or sign up

3 Comments sorted by Oldest | Newest

Annette Koenders
Senior Lecturer at Edith Cowan University

Professor Pierre Horwitz and PhD student John Bunn provided a lot of the information for this article.

6 months ago • report

Mike Jubow
forestry nurseryman

In reply to Annette Koenders

Annette, how's this for a wild idea? If you have the knowledge to breed the animals well in captivity, why not get a commercial partner to grow them for the fresh food market? They could be the new in thing in the yuppie foodies restaurants and make a motsa. One of the conditions of being licensed for such an operation would be to release a certain quantity back into their native or another suitable range. While you can make controlled, commercial profits from it, an animal will never go extinct.

5 months ago • report

Kevin Bain
Teacher

Interesting, and reminded me of the story on ABC 730 Report 3 April about the relocation of a freshwater tortoise species in WA threatened by climate change induced drying of swamplands - a different issue to your case-study of invasive species effects but an illustration of the risk of "geoengineering" solutions. By using a supercomputer in Melbourne which analysed 13,000 alternative sites, the tortoise species will now be transplanted to a new site to "reconstruct wetlands with engineering principles…

Read more