

DPI Primefact

Cudgegong Giant Spiny Crayfish – *Euastacus vesper*

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Threatened Species Unit

Introduction

The Cudgegong Giant Spiny Crayfish (*Euastacus vesper*) is a large spinose species of *Euastacus* from NSW, Australia. The species is currently known from five (5) sites across a restricted area in the upper Macquarie-Cudgegong Catchment. It has been documented to reach at least 71.6mm occipital carapace length (OCL).



Figure 1. Cudgegong Giant Spiny Crayfish in a captive setting (McCormack and Ahyong 2017).

Surveys indicate it occurs in the Cudgegong River and its tributaries upstream of Dunn's Swamp, with part of its range contained within protected areas of Wollemi National Park and Coricudgy State Forest.

In NSW, the Cudgegong Giant Spiny Crayfish is listed as a Critically Endangered species. There are heavy penalties for harming, possessing, buying or selling them, or for harming their habitat (see 'Legal Implications').

Description

The Cudgegong Giant Spiny Crayfish is a large species of spiny crayfish in the genus *Euastacus*. The *Euastacus* genus is the second most widely distributed group of freshwater crayfish in Australia, with many different species occurring from North Queensland to South Australia, including Eastern and Southern NSW and Victoria.

Some distinguishing features of the Cudgegong Giant Spiny Crayfish are:

- Green-brown dorsal colouring
- Central blue colouring on the first chelae
- Pale cream or yellow general tubercles, cephalic and cervical spines
- Large dark green to black thoracic spines
- Green walking legs

The Cudgegong Giant Spiny Crayfish can be distinguished from other large spiny crayfish on the basis of colouration and spine patterns. The presence of spines on the claws, body and legs of the Cudgegong Spiny Crayfish can distinguish this species from the common yabby (*Cherax destructor*).

Habitat and ecology

The habitat requirements for the Cudgegong Giant Spiny Crayfish are currently poorly understood. It is believed that larger Cudgegong Giant Spiny Crayfish prefer deeper water whilst juveniles often found in shallow margins and under rocks along the side of riffles. Another key habitat attribute is undercut banks with overhanging vegetation cover.



Figure 2. Example habitat of Cudgegong Giant Spiny Crayfish in the Upper Cudgegong River, NSW (McCormack and Ahyong 2017).

Why is the Cudgegong Giant Spiny Crayfish threatened?

- Habitat modification or destruction from vegetation clearing and farming practices as well as vegetation disturbance from exotic species.
- Potential pollution and pesticide run off into rivers.
- Predation by exotic species including pigs, foxes, cats, and goats.
- Competition with and predation by introduced fish species
- Potential illegal harvest/collection of species or misidentification with the common yabby.
- Increase in the frequency and severity of extreme weather events e.g. increased temperatures, drought and bushfires.

Conservation and recovery actions

- Implement education initiatives to improve identification and awareness of protected status of Cudgegong Giant Spiny Crayfish.
- Compile existing information to identify knowledge gaps on the biology, ecology and life history as well as associated threats.
- Establishment of population monitoring program to identify new subpopulations of the species (to determine contemporary geographic range) and threats to the species as well as track the trajectory of known subpopulations.
- Protection of the *E. vesper* habitat from degradation and stock damage.
- Ex situ conservation/translocation options to establish a separate subpopulation in an area of viable habitat.

Legal Implications

It is illegal to catch and keep, buy, sell, possess or harm Cudgegong Giant Spiny Crayfish (or any other threatened species in NSW) without a specific permit, licence or other appropriate approval, and significant penalties apply. For Critically Endangered species, these penalties can include fines of up to \$220,000 and up to two years in prison.

There can also be significant penalties for causing damage to the habitat of a threatened species without approval, through actions such as dredging river or creek beds, removing large woody habitat and constructing barriers that block the free passage of fish.

Clearing that constitutes a routine agricultural management activity, and certain routine farming practice activities (other than clearing) are permitted, provided the activities are to the minimum extent, reasonably necessary and all other relevant

statutory approvals or authorities have been obtained.

The impacts of developments or activities that require consent or approval in accordance with the *Environmental Planning and Assessment Act 1979* must be assessed and considered by consent or determining authorities. Where such actions are likely to result in significant impact on a threatened species or its habitat, a detailed species impact statement must be prepared.

Strategies to be adopted for promoting the recovery of the Cudgegong Giant Spiny Crayfish must be set out in the NSW DPI Priorities Action Statement.

Bibliography and further reading

Fisheries Scientific Committee (2023) Final Determination *Euastacus vesper* available online at <https://www.dpi.nsw.gov.au/fishing/species-protection/fsc/final>

McCormack RB & Ah Yong ST (2017). *Euastacus vesper* sp. nov., a new giant spiny crayfish (Crustacea, Decapoda, Parastacidae) from the Great Dividing Range, New South Wales, Australia. *Zootaxa* 4244(4): 556-567.

Austin CM, Whiterod NS, McCormack R, Raadik TA, Ah Yong ST, Lintermans M, Furse JM & Grandjean F (2022). *Molecular taxonomy of Australia's endemic freshwater crayfish genus Euastacus (Parastacidae), with reference to priority 2019–20 bushfire-impacted species – 2022 update*. Deakin University and Aquasave-NGT. Victor Harbor, Australia

For further information

See the NSW DPI website: www.dpi.nsw.gov.au

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