

Primefact

The Swollen Crayfish – *Euastacus guruhgi*

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DPIRD Fisheries, Threatened Species Unit

Introduction

The Swollen Crayfish is a short-range endemic freshwater crayfish found exclusively within a very small area of the Tweed River Basin in northeastern New South Wales. The species is restricted to rainforest gullies and headwater streams centred around Wollumbin National Park. Due to its extremely limited distribution, exposure to climate driven threats, and potential for catastrophic population loss from single events, the Swollen Crayfish is listed as **Critically Endangered**.



Figure 1 Swollen Crayfish (Rob McCormack)

Description

The Swollen Crayfish is a small-sized, poorly spinose *Euastacus* species.

Key features include:

- Documented to reach a maximum of 32mm occipital carapace length (OCL). Dorsal colouring: brown to green-brown
- Ventral surfaces: lighter, often cream to pinkish
- Walking legs: blue-grey

The species closely resembles *Euastacus girumalayn* and other small *Euastacus* taxa, and accurate identification typically requires formal morphological assessment

Habitat and ecology

The Swollen Crayfish is a highly restricted short-range endemic known only from four small creeks. All sites occur on or near Wollumbin (Mount Warning) within the Oxley River subcatchment. Despite highly suitable habitat in surrounding rainforest, the species has never been found outside this small area, even where other *Euastacus* species occur. The species occupies an area of extremely high rainfall (>2,000 mm/year) and warm subtropical temperatures (15–25 °C).

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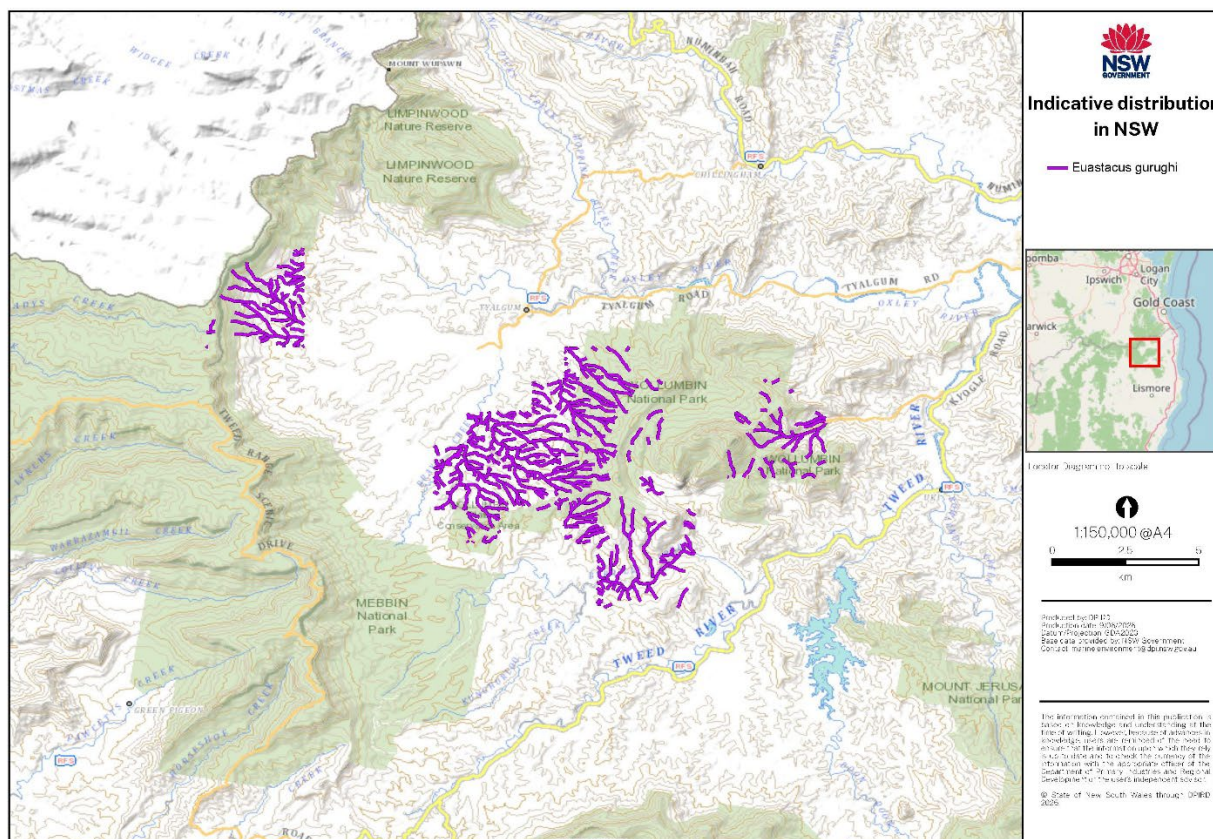


Figure 2. Indicative distribution of the Swollen Crayfish based on survey records and predicted occurrence and expert opinion.

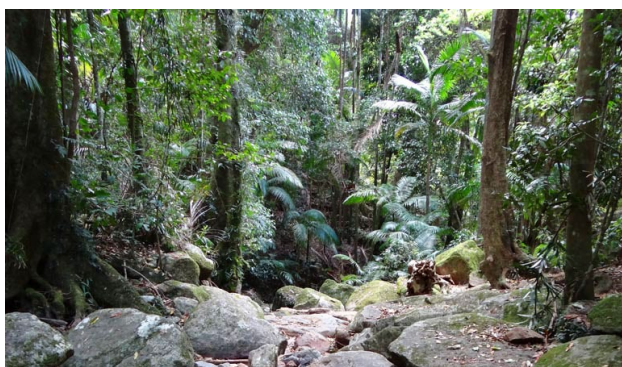


Figure 3. Wollumbin National Park (NSW Government)

Ecological characteristics include:

- Slow growth and multi-decadal lifespan

- Low fecundity
- Late maturity (females likely mature at ~25 mm OCL; ~5–10 years)
- Poor dispersal capacity
- Sensitivity to temperature and moisture fluctuations

The species is presumed to be omnivorous, feeding on detritus, plant material and small invertebrates.



Figure 4 Swollen Crayfish (Rob McCormack)

Why is the Swollen Crayfish threatened?

Climate change is a key threat to the swollen crayfish, with the species having limited capacity to relocate to other nearby suitable habitat. The primary threats include:

- Increased frequency and intensity of extreme weather events (heatwaves, storms, droughts).
- Increased average temperatures projected to exceed the species physiological tolerance.
- Hydrological changes, such as altered rainfall patterns and lower groundwater tables reduce the availability of suitable streams
- Increased bushfire risk, reducing canopy cover, increasing sedimentation, and altering water/soil temperature regimes.
- Illegal collection
- Invasive species
- Incursion into Australia of crayfish plague

Conservation and recovery actions

- Implement education initiatives to improve the identification and awareness of the protected status of Swollen Crayfish.
- Compile existing information to identify knowledge gaps on biology, ecology and life history as well as associated threats.
- Establishment of population monitoring programs to identify the, distribution and new subpopulations of the species, and threats to the species.
- Fire and weed management planning to reduce risk to key habitat.
- Protection of high elevation groundwater dependent ecosystems.

Legal implications

Under the *NSW Fisheries Management Act 1994*, it is an offence to buy, sell, possess or harm a Swollen Crayfish (or any other threatened species in NSW) without a specific permit, licence or 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.

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 Swollen Crayfish must be set out in the NSW DPIRD Priorities Action Statement.

Further information

For further information see the NSW DPIRD website:
www.dpi.nsw.gov.au

Contact the NSW DPIRD Threatened Species Unit:
Locked Bag 1, Nelson Bay, NSW, 2315 Email:
fisheries.threatenedspecies@dpird.nsw.gov.au

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