

Bousfields Marsh Hopper - *Microrchestia bousfieldi*

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Threatened Species Unit, Fisheries



Figure 1: A female (left) and a male (right) Bousfields Marsh Hopper (Photo: R. Springthorpe)

Introduction

The Bousfields Marsh Hopper is a naturally rare, small marine amphipod (a type of crustacean).

The species has an extremely limited distribution and despite active searching in other areas, Bousfields Marsh Hopper appears to be confined to a single population living in the mangroves along South West Rocks Creek.

The Bousfields Marsh Hopper is listed as a **vulnerable species** in NSW. Heavy penalties apply for harming, possessing, buying or selling Bousfields Marsh Hopper, or for damaging their habitat (see 'Legal implications').

Description

The Bousfields Marsh Hopper grows to 9-10 mm. It has relatively large eyes, making up greater than one-third of its entire head length.

Habitat and ecology

- There is currently little information on the biology or ecology of Bousfields Marsh Hopper.
- All species in the *Microrchestia* genus are restricted to mangrove swamps and salt marshes in eastern Australia; where they shelter under rotting logs and mangrove debris in the supra-littoral zone.

- All marsh hoppers are direct developers and the juveniles develop in a special pouch until released as young adults.
- Bousfields Marsh Hopper is considered to be a narrow-range endemic species, characterised by a limited geographic range and restricted habitat.



Figure 2: Mangrove swamp habitat is crucial for the survival of Bousfields Marsh Hopper (Photo: NSW DPI)

Why is the Bousfields Marsh Hopper threatened?

- The isolated population of this species may be impacted by urban development as well as pollution from a number of recreational activities, particularly boating.
- Pollution from sources such as stormwater, pesticides, and oil residues can damage or alter the species' habitat.
- There are also concerns about possible effects from an old oil terminal nearby. Research has shown other species of marine amphipods are particularly sensitive to oil pollution.
- Increasing urbanisation can also contribute to habitat degradation and modification.

Conservation and recovery actions

- Conduct habitat protection and rehabilitation works where appropriate.
- Conduct research on the biology and ecology of the Bousfields Marsh Hopper, and undertake surveys and monitoring to determine the distribution and abundance of the species.
- Investigate the interactions and impact of pollution in the environment and other threatening processes on the Bousfields Marsh Hopper population.
- Conduct community education programs to raise community awareness of Bousfields Marsh Hopper; the importance of mangrove habitats in South West Rocks Creek; and ways to minimise impacts.
- Provide information on the distribution of the Bousfields Marsh Hopper to the local council and determining authorities to ensure appropriate consideration during development assessment processes.
- Any sightings of the species are encouraged to be reported to the DPI Threatened Species Sightings online form:
www.dpi.nsw.gov.au/fishing/species-protection/report-it

Legal implications

It is illegal to collect and keep, buy, sell, possess or harm Bousfields Marsh Hopper (or any other threatened species in NSW) without a specific permit, licence or other appropriate approval, and significant penalties apply. For vulnerable species

these penalties can include fines of up to \$55,000 and up to one year in prison.

There can also be significant penalties for causing damage to the habitat of a threatened species without approval through such actions as dredging and construction.

The impact of developments or activities that require consent or approval (in accordance with the *Environmental Planning and Assessment Act 1979* and *Fisheries Management Act 1994*) must be assessed and considered by consent or determining authorities. Where such actions are likely to result in a significant impact on a threatened species or its habitat, a detailed species impact statement must be prepared.

Strategies that have been adopted for promoting the recovery of Bousfields Marsh Hopper to a position of viability in nature are set out in a [Priorities Action Statement](#)

Bibliography and further reading

Conlan, K. (1994) Amphipod crustaceans and environmental disturbance: a review. *Journal of Natural History*, **28**(3): 519-554.

Fisheries Scientific Committee (2010) Final Determination – Bousfields Marsh Hopper – *Microrchestia bousfieldi* as a Vulnerable Species.

Lowry, J.K. and Peart, R. (2010) The genus *Microrchestia* (Amphipoda: Talitridae) in eastern Australia. *Zootaxa*, **2349**: 21-38.

For further information

See the NSW DPI website:

www.dpi.nsw.gov.au

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