

Flathead Galaxias – *Galaxias rostratus*

December 2014 Primefact 880 First Edition
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Introduction

Flathead Galaxias, also commonly known as Murray Jollytail, is a small native fish species from the family Galaxiidae. The species is endemic to the southern tributaries of the Murray-Darling River system; the Murray, Murrumbidgee and Lachlan Rivers and their tributaries and the upper Macquarie River catchment. Flathead Galaxias has experienced significant declines in distribution and abundance in all river systems in NSW. Extensive scientific sampling over the last two decades has recorded extremely few specimens. The last record in the Murrumbidgee River was in 1971, and it is thought that the species may be locally extinct from the lower Murray, Murrumbidgee, Macquarie and Lachlan Rivers. In addition, only very small numbers of specimens have been sampled from wetlands of the Murray River floodplain between Hume Dam and Lake Mulwala and the upper Murray River near Tintaldra.

Flathead Galaxias is listed as a **critically endangered species** in NSW. Heavy penalties apply for harming, possessing, buying or selling the species, or for harming their habitat (see 'Legal implications').

Description

Flathead Galaxias is a small schooling fish that grows to 140 mm (22.5 grams), but rarely exceeds 100 mm. It is a long, slender fish with a distinct flattened head and a large mouth that extends well below the eye. It is generally mottled olive green to brown on the upper body and bright silver coloured on the underside. It has a forked tail and transparent fins. Flathead Galaxias is morphologically similar to the Common Jollytail, *Galaxias maculatus*, although the flattened head and larger mouth of *Galaxias rostratus* is a distinguishing feature.

Figure 1: Flathead Galaxias (Photo: Gunther Schmida)



Habitat and ecology

- Flathead Galaxias is a freshwater fish. It is generally found mid-water in still and gently moving waters of small streams, lakes, lagoons, billabongs and backwaters. Its habitat consists of coarse sand or mud substrate and aquatic vegetation.
- Flathead Galaxias feeds predominately on aquatic insects and crustaceans.
- Spawning occurs in spring, when water temperatures are above 10.5°C. The species produces 2000-7000 transparent, slightly adhesive demersal eggs, with fecundity increasing with length of fish.
- The eggs hatch after 9 days at temperatures between 9-14°C. Fry are 6-8 mm long after hatching. Individuals probably mature in their first year (approximately 80 mm long).

Why is Flathead Galaxias threatened?

- Spawning or recruitment failure due to water regulation and cold water release from impoundments.
- Loss of or altered connectivity between rivers and floodplains.
- Loss of or degradation of habitats in lakes, wetlands and billabongs such as the loss of

aquatic vegetation like Ribbon Weed (*Vallisneria* spp)

- Predatory and competitive interactions with introduced species such as Carp (*Cyprinus carpio*), Redfin Perch (*Perca fluviatilis*) and Gambusia (*Gambusia holbrooki*).
- Construction of barriers to migration and re-colonisation such as weirs and dams without fish ways.
- Habitat modifications as a result of agricultural practices including siltation and loss of riparian vegetation.
- Pollution from domestic, agricultural and industrial sources.

Conservation and recovery actions

- Research to identify and prioritise key threatening processes and their impact on Flathead Galaxias.
- Research into the reproductive biology and possible captive breeding techniques of Flathead Galaxias.
- Monitor Flathead Galaxias populations over time to assess trends in abundance and distribution.
- Educate the community on the critically endangered status of Flathead Galaxias, and the importance of preserving habitat areas.
- Implement the Aquatic Habitat Rehabilitation program in priority areas to mitigate or remove the operation of threatening processes.
- Establish an eradication/control program for introduced species where appropriate.
- Identify future potential sites for possible translocation of Flathead Galaxias.
- **Report any sightings of the species via the NSW DPI online form:**
www.dpi.nsw.gov.au/fisheries/species-protection/report-it/threatened-species-sighting-form

Legal implications

It is illegal to catch and keep, buy, sell, possess or harm Flathead Galaxias (or any other threatened species in NSW) without a specific permit, licence, or other appropriate approval – 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 are also significant penalties for causing damage to the habitat or critical habitat of a threatened species without approval.

The impact 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 a 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 Flathead Galaxias to a position of viability in nature must be set out in the NSW DPI Priorities Action Statement.

A recovery plan may be prepared for in accordance with the provisions of the *Fisheries Management Act 1994* to promote the recovery of the species to a position of viability in nature.

Bibliography and further reading

Fisheries Scientific Committee (2008) *Galaxias rostratus* – flathead galaxias. Final Determination.

Lintermans, M. (2009) Fishes of the Murray Darling Basin: An introductory guide. Murray Darling Basin Authority, Canberra, 157 pp.

Llewellyn, L. C. (2005). Breeding biology, and egg and larval development of *Galaxias rostratus* Klunzinger, the Murray Jollytail from inland New South Wales. *Australian Zoologist* 33, 141-165.

For further information

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

Contact the NSW DPI Threatened Species Section:

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Published by the NSW Department of Primary Industries.

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PUB11/48

Figure 2: Flathead Galaxias (Photo: Gunther Schmida)

