

# Oxleyan Pygmy Perch – *Nannoperca oxleyana*

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Threatened Species Unit, Port Stephens Fisheries Institute



Figure 1: An Oxleyan Pygmy Perch (Photo: G. Schmida)

## Introduction

Oxleyan Pygmy Perch are a small freshwater fish endemic to the coastal region of eastern Australia, from northern NSW to south-eastern Queensland. They have specific habitat requirements and are patchily distributed within this range. Oxleyan Pygmy Perch have disappeared from some locations and remaining populations are small and fragmented. They are threatened by coastal development, habitat degradation, water pollution, competition from introduced species and collection for aquaria.

Oxleyan Pygmy Perch are listed as an **endangered species** under both NSW and Commonwealth law. There are heavy penalties for harming, possessing, buying or selling them, or for harming their habitat (see 'legal implications'). A recovery plan has been developed for the species and work on recovery actions is well underway.

## Description

Oxleyan Pygmy Perch are light brown to olive in colour. Their back is generally darker in colour while the sides are pale and mottled, with three to four patchy brown bars extending from head to tail. There is a dark spot with an orange rim at the base of the tail and a blue ring around the eye. The fins are mainly clear, except during breeding, when males develop more intense red and brown fin and body colouration than females and have black pelvic fins.

They can grow to about 60mm in length, but are more commonly found to lengths of about 45mm and 2.8g. They have a relatively small mouth, reaching to just below the eye and enlarged teeth in the lower jaw.

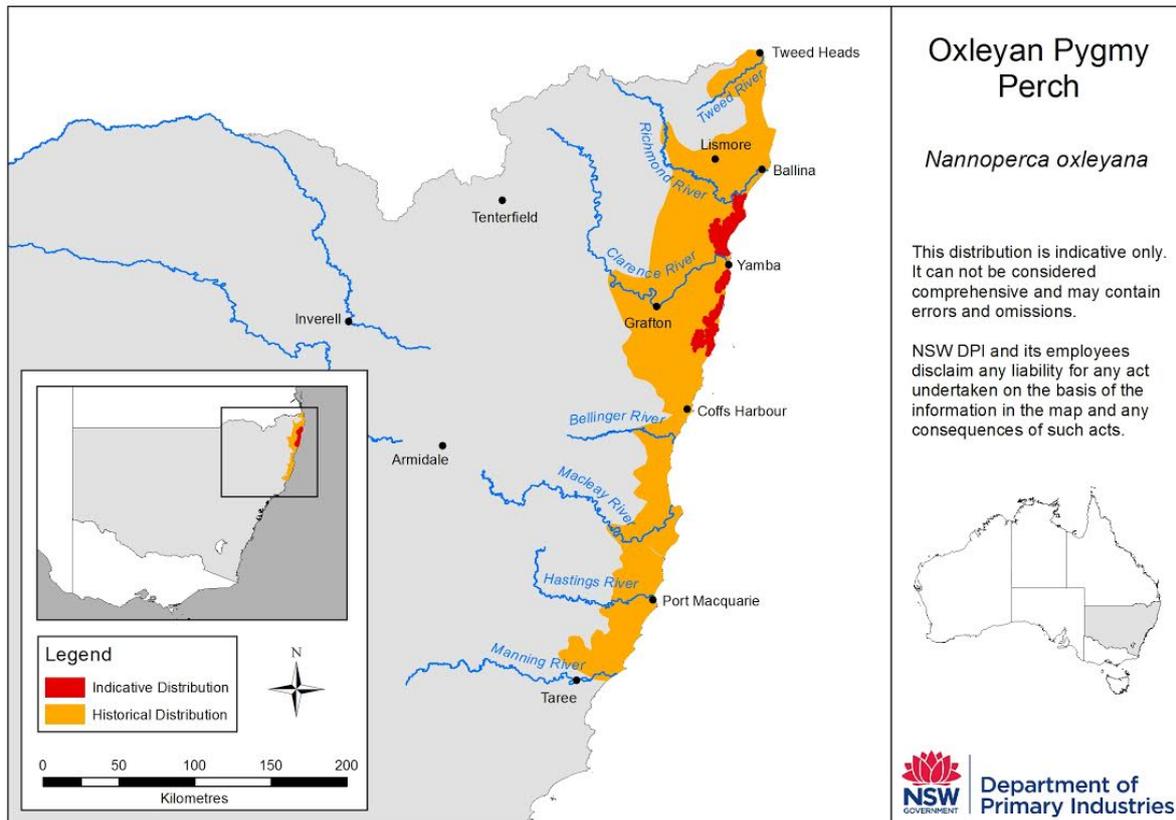


Figure 2: Historical and indicative distribution of the Oxleyan Pygmy Perch.

## Habitat and Ecology

- Oxleyan Pygmy Perch have restricted and patchy distribution in coastal lowlands from north-eastern NSW to south-eastern Queensland, including Fraser, Moreton and Stradbroke Islands.
- Populations are most common on the coastal floodplains of NSW where they disperse between water bodies during localised flood events.
- Throughout its range, most water bodies supporting this species are situated within 8km of the coast at elevations of less than 30m above sea level.
- Oxleyan Pygmy Perch mostly occur in swamps, creeks and lakes of coastal 'wallum' (Banksia-dominated coastal heath). These waters are usually acidic, with low salinity and low conductivity, and are often darkly stained.
- They seem to prefer slow-moving or still waters with plenty of shelter in the form of dense aquatic vegetation (e.g. sedges) or undercut, root-filled banks fringed with submerged riparian (river bank) vegetation.
- They are mainly carnivorous, feeding on small crustaceans, aquatic insects, diatoms and filamentous algae.
- In aquaria sexual maturity is reached in four to five months, when females are around 30mm and males around 27mm. In the wild, all

females and males over 30mm are mature. However, fish can reach maturity at lengths as small as 20mm.

- They have an extended breeding season from early spring through to late autumn, although spawning is concentrated from October to December, when water temperatures exceed 20°C. A few eggs are laid every second day throughout the course of the breeding season, and are scattered over the bottom substrate or aquatic vegetation. At 25°C the eggs of aquarium-reared fish hatch in approximately two days and begin feeding five days after hatching.

## Why is the Oxleyan Pygmy Perch threatened?

- Coastal development (e.g. housing, roads, sand-mining, agriculture, forestry), resulting in habitat disturbance, erosion, siltation and water quality decline. Nutrient enrichment and contamination with toxic substances can also have impacts in some areas.
- Habitat degradation resulting from removal of riparian vegetation, drainage works and sedimentation from road crossings.
- Competition from introduced fish species such as *Gambusia* (also known as Mosquitofish).
- Collection for aquaria.

## Conservation and recovery actions

- Protect remaining areas of habitat from disturbance or degradation.
- Prevent sedimentation and poor water quality by improving land management practices, conserving and restoring riparian (river bank) vegetation and using effective erosion control measures.
- Rehabilitate creek habitats, for example through replanting native riparian vegetation.
- Ensure that all fish stocking activities within the natural distribution of Oxleyan Pygmy Perch comply with the NSW Fish Stocking Fisheries Management Strategy.
- Conduct intensive surveys in drainage areas identified as supporting or potentially supporting new pygmy perch populations, to map their distribution and identify habitat associations.
- Develop and implement control programs for introduced pest species such as *Gambusia* and prevent their spread into other areas.
- Educate the community about the threatened status of Oxleyan Pygmy Perch and how they can assist with the recovery of the species.
- Report any sightings of the species via the [NSW DPI online form](#).
- A full list of strategies that have been adopted for promoting the recovery of the Oxleyan Pygmy Perch is set out in the [NSW DPI Priorities Action Statement](#).

## Legal implications

It is illegal to catch and keep, buy, sell, possess or harm Oxleyan Pygmy Perch (or any other threatened species in NSW) without a specific permit, licence or other appropriate approval, and significant penalties apply. For endangered species, these penalties can include fines of up to \$220,000 and up to 2 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 beds, removing large woody debris 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 Oxleyan Pygmy Perch are set out in the [NSW DPI Priorities Action Statement](#).

## Bibliography and further reading

Knight, J.T. (2016) Distribution and conservation status of the endangered Oxleyan pygmy perch *Nannoperca oxleyana* Whitley in New South Wales. Fisheries Final Report Series, No. 153.

Knight, J.T., Arthington, A.H., Holder, G.S. and Talbot, R.B. (2012) Conservation biology and management of the endangered Oxleyan pygmy perch *Nannoperca oxleyana* in Australia. *Endangered Species Research* **17**: 169-178.

NSW DPI (2005) Oxleyan Pygmy Perch recovery plan and background paper, NSW Department of Primary Industries, Orange, NSW, Australia.

## For further information

See the NSW DPI website: [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

Contact the NSW DPI Threatened Species Unit:  
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Figure 3: An example of Oxleyan Pygmy Perch habitat (Photo: J. Knight)