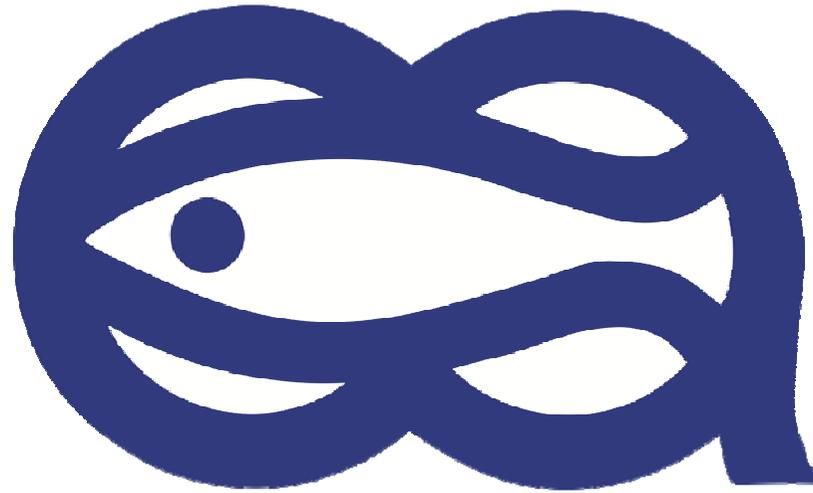


A close-up photograph of a Macquarie Perch fish, showing its head, eye, and scales. The fish is positioned on the right side of the frame, facing left. The scales are highly detailed, showing a pattern of small, overlapping scales. The eye is large and prominent, with a dark pupil and a lighter iris. The background is dark and out of focus.

MACQUARIE PERCH

Why save them?

Karl Schaerf (Central Acclimatisation Society) & **Luke Pearce** (NSW DPI Fisheries)



**CENTRAL ACCLIMATISATION
SOCIETY INC.
(FOUNDED 1937)**

**CARING FOR THE ENVIRONMENT
AND
THE INTERESTS OF ANGLERS
"THE CONSCIENCE OF NSW FISHERIES"**

MACQUARIE PERCH



Photo: N.Armstrong (cover image) from McDowall, R. M. 1996. *Freshwater Fishes of South-Eastern Australia*, 2nd ed. Reed Books, Sydney.



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MACQUARIE PERCH

- Members of the perch family, closely related to the gropers and their relatives
- Genus *Macquaria*
- Fossils found in Queensland, dated between 38 and 22.5 million years old
- Members of the genus include estuary perch and Australian bass, both of which inhabit coastal freshwaters of SE Australia
- Inland, members of the genus, golden perch and Macquarie perch have evolved to exist, entirely, in freshwater, probably as a result of the great uplift which created the Great Dividing Range, 20 to 15 million years ago, although populations of *M. perch* have been identified in the Hawkesbury-Nepean and Shoalhaven River systems.

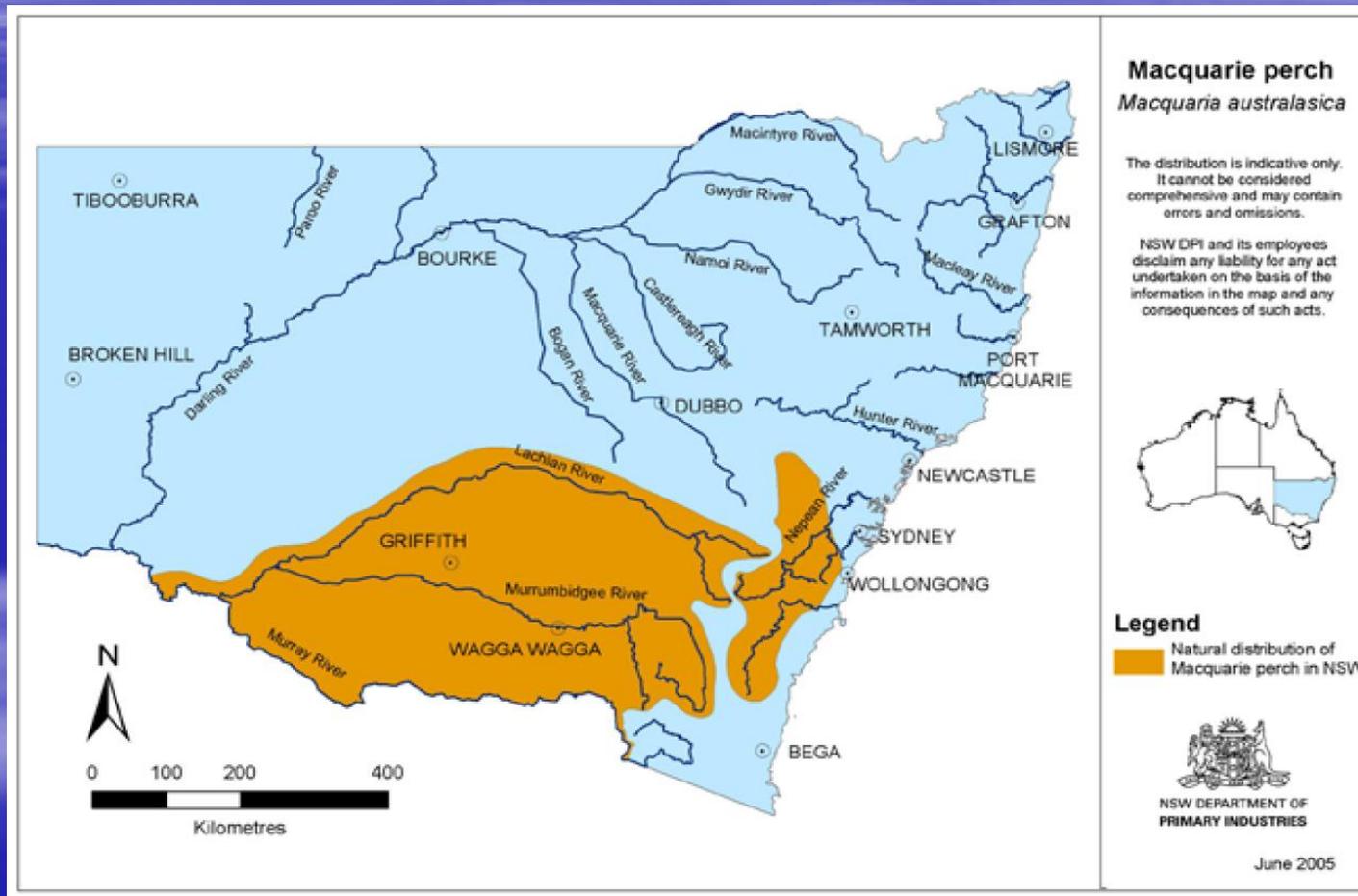
First Records

Possibly the first scientific reference to our Inland fishes was by the Frenchmen, René Lesson and his companion, Jules d'Urville, who journeyed across the Blue Mountains to Bathurst in 1824 and collected the specimens, lodged in the Museum of Natural History, Paris and later described by the naturalists, Georges Cuvier and Achille Valenciennes in 1829 (trout cod), and 1830 (Macquarie perch).

February 3

“...Fish River, where we arrived early with the intention of getting ornithorynchi, was so named by Mr. Evans , because he noticed a great number of fish there. We were less fortunate, for we only saw very small ones. ...”

Historic Distribution





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CONTEMPORARY TIMES

CURRENT STATUS

- Endangered species
- Extinct in the system (Macquarie), from which the holotype was collected
- Probably two forms, one each from the cool, upper reaches of the Murray-Darling system in NSW, ACT and Victoria, with an extant population known in the Murrumbidgee, near Narrandera and the other form from the Hawkesbury-Nepean and Shoalhaven systems
- Northern most, Inland range in NSW now restricted to the Abercrombie River and tributaries, south of Bathurst
- Possible translocated populations in Victoria
- Anglers agreed, voluntarily, to ban capture, c1990
- Protected in NSW since 1995



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CONTEMPORARY TIMES CURRENT STATUS

- c1998 - Concerned anglers pressured NSW Fisheries to investigate status of Abercrombie River population; small grant (\$10,000), subsequently made to begin investigations
- 2001 - Central Acclimatisation Society (CAS), requested NSW RFFTEC to provide funding for research, listing main reasons to
 - Establish the impact of incidental angling
 - Establish the potential impact of continued trout stocking
 - Establish the impact of habitat loss/destruction
 - Establish the possibility of hatchery breeding (IFR, Narrandera)
 - Investigate the potential to ultimately restore as an angling species





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CONTEMPORARY TIMES

CURRENT STATUS

- Ongoing pressure from anglers (principally, CAS), resulted in further investigations being undertaken in order to identify both the locations of current populations and their habitat. Funding for this phase was provided by Lachlan CMA in 2005
- Collection of a large number of potential brood stock (in excess of 100 specimens), in 2008, resulted in them being taken to Narrandera Fisheries Centre (NFC), to undertake captive breeding, however, this was not, initially, successful
- Further funding sought and obtained from anglers, through RFFTEC, to replicate a section of “stream” at NFC in order to encourage the captive fish to spawn





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PRESENT DAY THREATS

- Habitat destruction/degradation
- Introduced species
- Barriers to fish passage
- Overfishing by recreational fishers, despite them being protected since 1995
- Cold water releases (thermal pollution), from major dams and weirs.



NO HABITAT = NO FISH

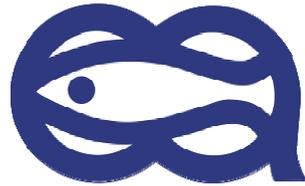


Macquarie Perch In The Upper Lachlan and Abercrombie



Luke Pearce Conservation Manager

Project Partners



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Industry &
Investment



Recreational
Fishing Trusts

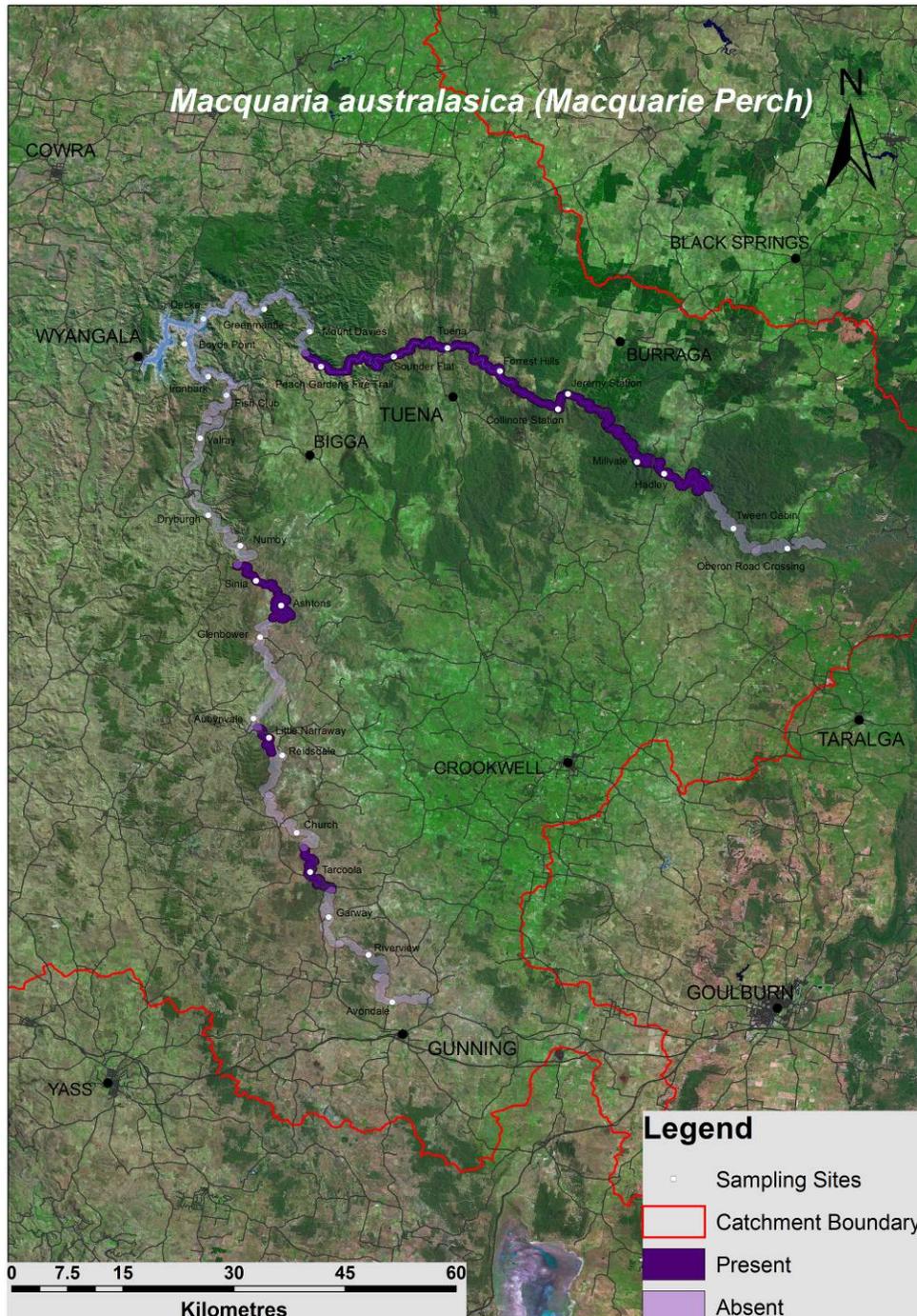


Together We're Making a Difference
LACHLAN CATCHMENT
MANAGEMENT AUTHORITY

Current Distribution



Macquarie Perch Mapping



The Upper Lachlan and Abercrombie Rivers has the most abundant western Macquarie Perch population in NSW

42 Site sampled for perch

- Upper Lachlan
- Abercrombie
- Lake Wayangla

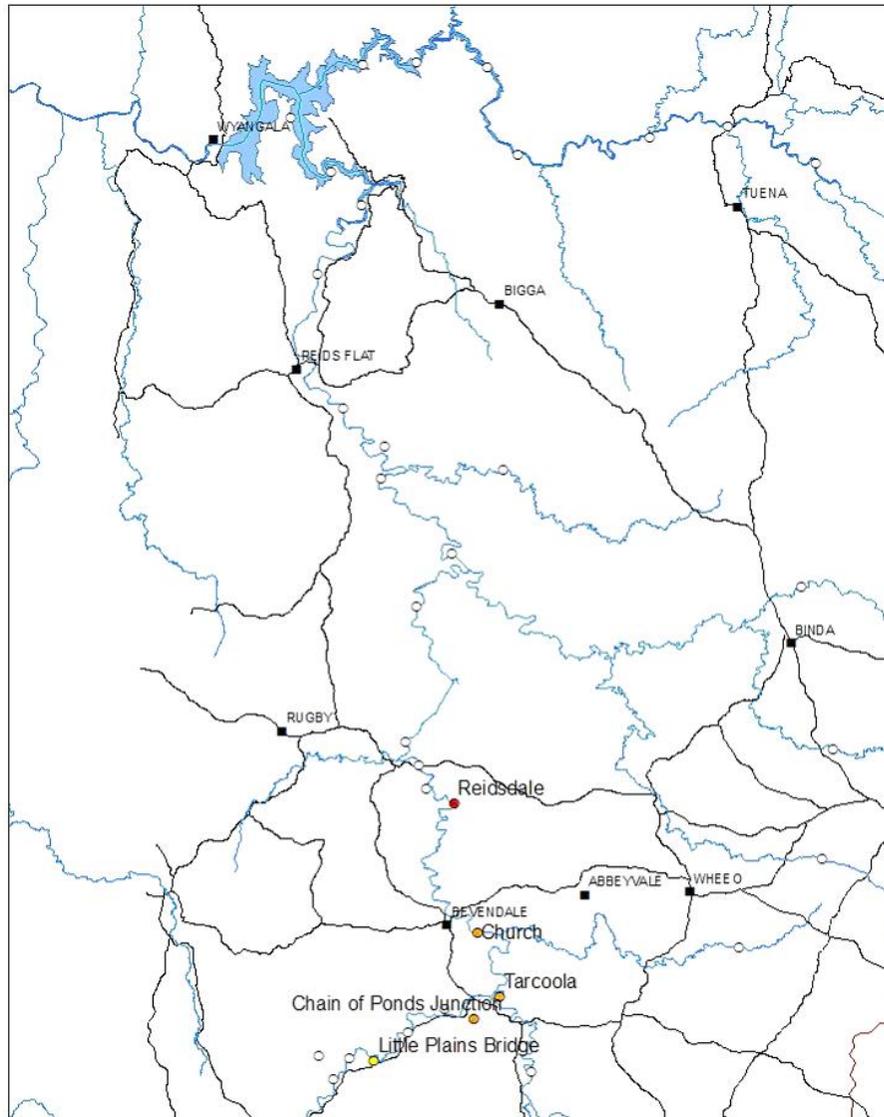
155 km of the Lachlan and 126km of the Abercrombie were mapped

Redfin Invasion



Upper Lachlan Redfin

- 1 Nov 2005
- 3 April/May 2006
- 254 Dec 2006
- Most dominant fish species present
- Sample at virtually ever site



Legend

- November 05
- April/May 2006
- December 2006
- No redfin sampled

0 2.5 5 10 15 20 Kilometers



Impacts Of Redfin

- Predation
 - Voracious predator consuming small native species and the young of Murray Cod, Golden Perch, Macquarie Perch and Trout.
- Competition
 - Compete for resources food, habitat.
 - Spawn earlier than native fish when the water reaches 12 degrees
- Disease
 - Main host of Epizootic Haematopoietic Necrosis Virus (EHNV)
 - EHNV has been demonstrated to be lethal to Macquarie perch, Sliver perch, Murray cod, Trout and Mountain galaxis

What We are Doing

- Impossible to eradicate
- Insurance population
- Collection of brood stock from Abercombie
- Established a purpose built pond and breeding program at Narrandera
- Identify refuge sites to establish population safe from the impacts of redfin.

Brood Stock Collection

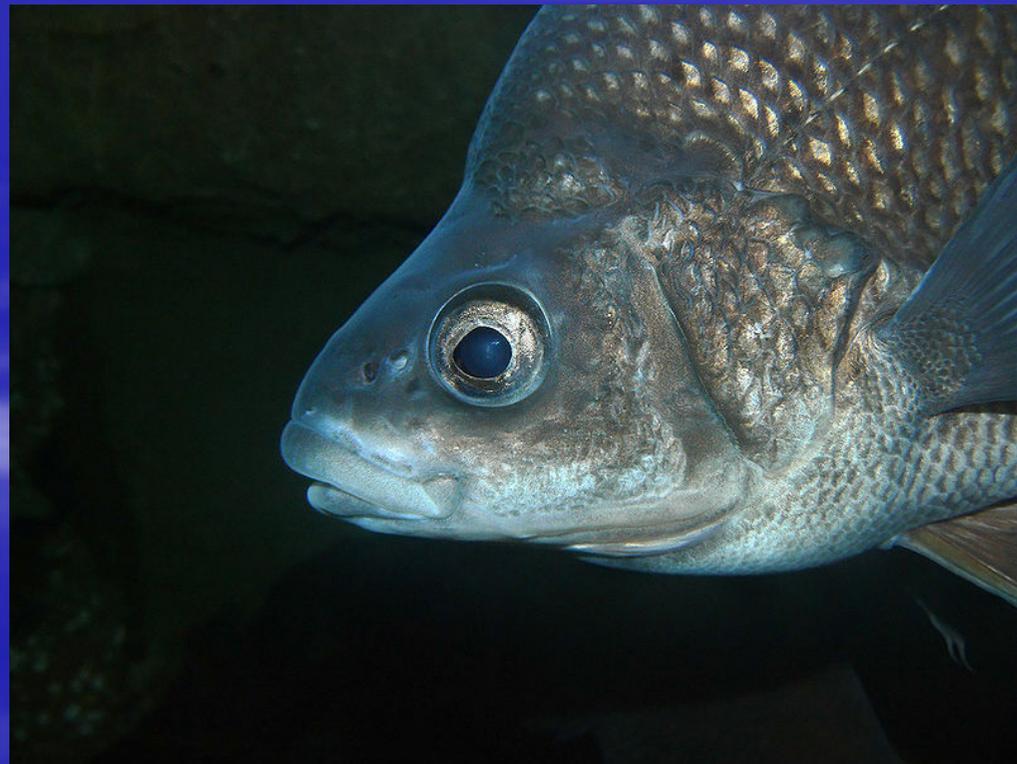
- 114 Fish Collected March/April 2008
Abercrombie
- Mostly young immature fish
- Taken to Narrandera breeding program
- To be used to try and breed from otherwise used to stock a refuge site.

Macquarie Perch Pond



Macquarie Perch Refuge Project

- Identify site in the Upper Lachlan Abercrombie where there is a barrier to Redfin movement and suitable habitat for Macquarie perch
- Sites investigated
 - Wiaborough Creek
 - Bolong River
 - Mt Weong Creek
 - Isabella River
 - Retreat River
 - Crookwell River



Review Habitat

- Wiaborough and Mt Werong, poor barriers and only approx 7km of stream above the barrier.
- Bolong, Isabella and Crookwell did not have suitable habitat
- Retreat had good barrier, suitable length of stream and great habitat.

Retreat River



Retreat River

- Only viable option
- Stock with either fish bred at Narrandera or the brood stock collect
- Want to have the best chance Macquarie perch establishing
 - Reduced predation
 - Competition

Retreat River Release

- 200 juveniles released March 2011
- Release and fish surveys conducted with aid of CAS members
- Trout numbers much lower than 2009





Questions??