

Protecting Australian Grayling – a guide for fishers and land managers

A THREATENED SPECIES

The Australian Grayling was historically found in south-eastern Australia, from the Hunter catchment in NSW to South Australia and Tasmania. It was once abundant throughout its range but has declined in NSW since European settlement and is now patchily distributed. Its most northern limit is now the Shoalhaven River.

The Australian Grayling is listed as an endangered species in NSW. There are heavy penalties for harming, possessing, buying, selling them or for damaging their habitat.

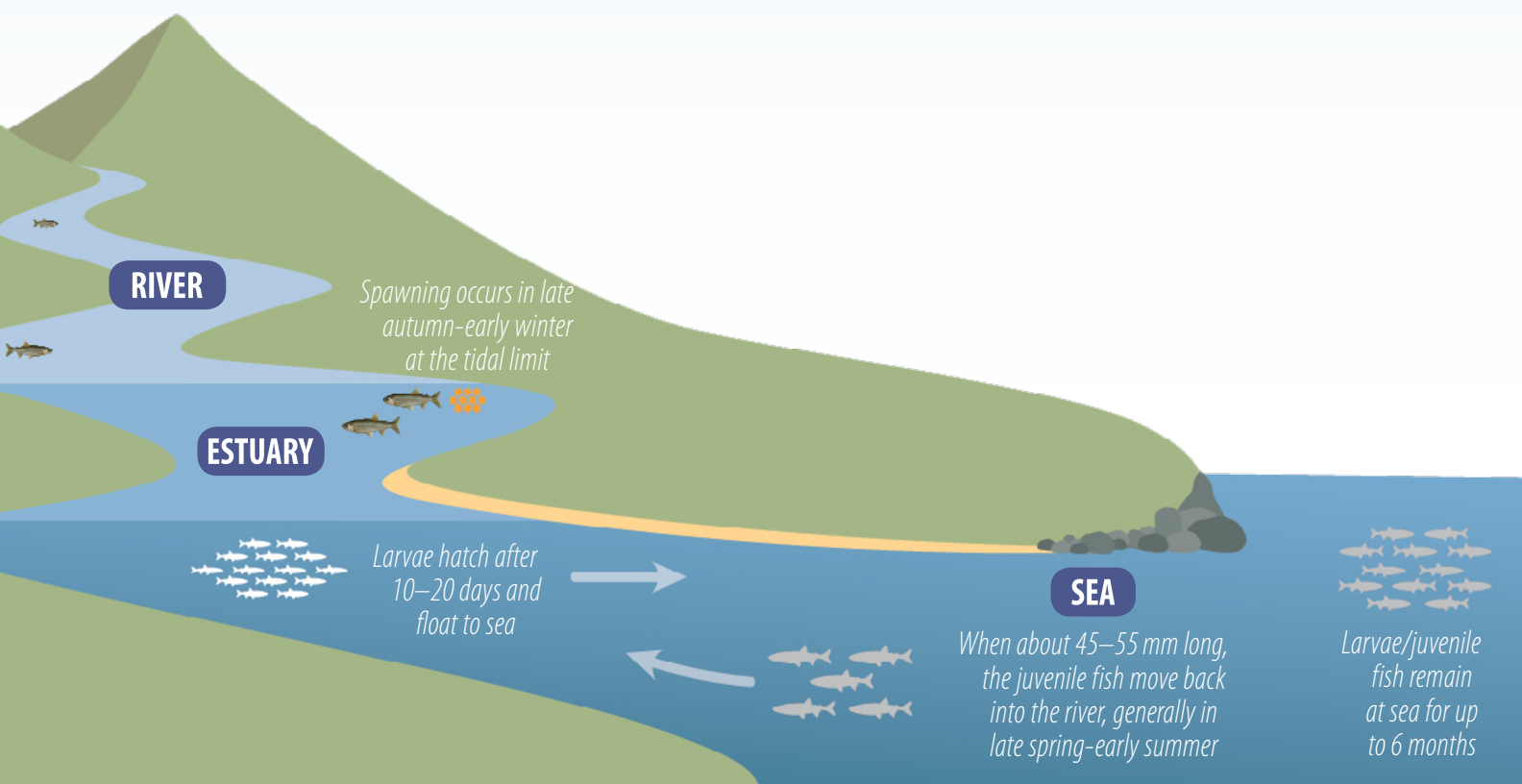
HABITATS

The Australian Grayling uses a wide range of habitats throughout its life. This species is diadromous, meaning it migrates between fresh and salt waters of rivers, estuaries and the ocean during different stages of its lifecycle. Adults spend most of their life in freshwater, usually in cool, clear rivers with a gravel bed. Spawning is thought to be initiated by seasonal rains and increased river flow in late autumn which triggers them to migrate downstream to the tidal limit. Temperature and lunar phase may also influence spawning.

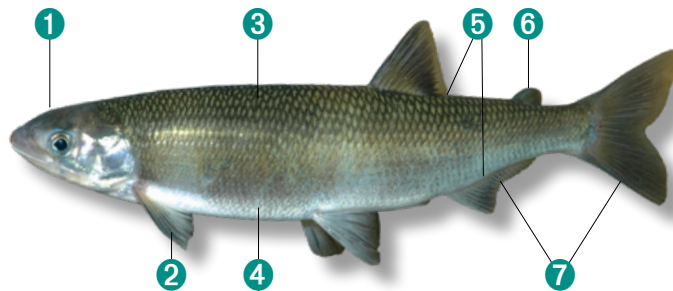
Larvae hatch after 10-20 days and drift out to sea before migrating back into freshwaters in spring, at about 4-6 months of age. Individuals remain within freshwater habitats for the remainder of their lives. Very little is known about the environmental requirements or habitats occupied during the estuarine or marine phase of their life cycle.



Australian Grayling. Photo: T. Raadik



HOW TO IDENTIFY AN AUSTRALIAN GRAYLING



1. Small head and rounded snout
2. Pectoral fin sits below (rather than at the upper edge of) the gill cover
3. Silvery in colour with an olive-grey back to olive-green or brownish on the back
4. Whitish belly
5. Dorsal fin positioned in front of the anal fin
6. Distinctive small, fleshy fin between the dorsal fin and tail
7. Clear to greyish fins

IDENTIFYING AUSTRALIAN GRAYLING

Australian Grayling can grow to 300 mm in length but are more commonly around 170-180 mm long. They are also sometimes called Cucumber Mullet or Cucumber Herring due to their distinctive cucumber odour when freshly caught.

The species can be confused with various species of mullet and the Australian Smelt, however Australian Grayling has some distinguishing features.



Mullet. Photo: G. Schmida



Australian Smelt. Photo: G. Schmida

FIVE THINGS YOU CAN DO TO HELP


1. Take a moment to study this guide and familiarise yourself with the appearance of Australian Grayling.
2. If you catch an Australian Grayling, or other threatened species release it carefully causing the least possible harm.
3. Protect our waterways. Become involved in habitat restoration or other programs that improve habitat for native fish. If you manage land adjacent to Australian Grayling habitat, prevent stock from directly accessing waterways, manage and protect vegetation on riverbanks, revegetate degraded areas, prevent erosion and ensure there are no in-stream structures or barriers limiting fish movement.
4. Report illegal or suspect fishing activities by:
 - » Contacting your nearest Fisheries Office
 - » Using the Fishers Watch Phone line 1800 043 536; or
 - » Completing the online report from: www.dpi.nsw.gov.au/fishing/compliance/report-illegal-activity
5. Participate in the NSW DPI Threatened Species Sighting Program. If you catch or see an Australian Grayling, take a photo, record the details and complete the online form: www.dpi.nsw.gov.au/fishing/threatened-species/report-it

CURRENT DISTRIBUTION OF AUSTRALIAN GRAYLING IN NSW

WHY IS AUSTRALIAN GRAYLING A THREATENED SPECIES?

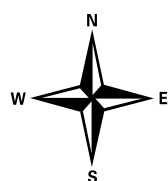
Australian Grayling populations have significantly reduced over time due to a range of factors including:

- » Construction of dams, weirs and road crossings create barriers to movement between freshwater and marine environments which is critical to completing their lifecycle. These structures also modify natural river flows and temperature regimes which Australian Grayling rely on to initiate spawning and migration.
- » Removal of riparian vegetation and gravel extraction can increase erosion and sedimentation which disturbs their habitat and impacts on water quality. The Australian Grayling may avoid or not recolonise areas of poor water quality.
- » Historic overfishing and current illegal fishing practices, including gill netting.
- » The southward shift of the East Australian Current (EAC) is likely to sweep larvae southward during the marine larval phase of their life cycle and limit recruitment into rivers in the northern parts of its range.
- » The EAC shift also impacts the food web by altering predator and prey distribution.
- » The Australian Grayling has a short life span and most individuals spawn only once before they die, so populations are especially vulnerable to any disruption to their lifecycle.

 Current distribution of Australian Grayling based on current survey records, predicted occurrence and expert opinion*

* For more information on modeling of indicative distribution, see www.dpi.nsw.gov.au/fishing/threatened-species/threatened-species-distributions-in-nsw

 0 25 50 km



HANDY FISHING TIPS

The Australian Grayling is an endangered species and deliberately fishing for them is illegal. When fishing for other species, consider the following tips to maximise the survival of any inadvertently caught Australian Grayling or other threatened species:

- » Use methods and rigs that reduce deep hooking – fish for your target species with artificial lures or flies and use non-offset circle hooks when using bait.
- » If the fish is hooked deeply, cut the line as close as possible to the fish's mouth. Do not try to remove the hook.
- » Use barbless hooks or hooks with reduced barbs to make removal easier and minimise damage.
- » Avoid lifting the fish from the water – if possible, unhook the fish while it is still in the water. Try to retrieve hooks from mouth hooked fish and release the fish as quickly as possible.
- » Support the weight of the fish properly. Use wet hands or wet gloves when handling fish to minimise damage to their skin. Don't hold the fish by the gills or eyes.
- » Use knotless mesh landing nets – avoid knotted mesh nets which may damage the fish's scales, skin, eyes and fins.
- » Use only legal fishing gear – gaff hooks, spears, spear guns or similar devices are totally prohibited in any freshwater environment.
- » If you accidentally catch Australian Grayling or other threatened species, try to avoid hooking them by changing your location, baits or fishing rigs. Report the catch and release of Australian Grayling to NSW DPI.



An Australian Grayling. Photo: D. Gilligan

FOR MORE INFORMATION

For more information on Australian Grayling or other threatened species in NSW, visit the NSW DPI website: www.dpi.nsw.gov.au

Alternatively email the NSW DPI Threatened Species Unit at: fisheries.threatenedspecies@dpi.nsw.gov.au

Fishing regulations may change during the life of this publication. It is the responsibility of fishers to ensure they are acting within the law at all times.

© State of New South Wales through Regional NSW [2021]. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

The information contained in this publication is based on knowledge and understanding at the time of writing (December, 2021) and may not be accurate, current or complete. The State of New South Wales (including the NSW Department of Primary Industries), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

Published by the Department of Primary Industries and funded under the NSW Marine Estate Management Strategy.