

## SPECIES MANAGEMENT PROFILE

*Prototroctes maraena* Australian Grayling

**Group:** Chordata (vertebrates), Actinopterygii (bony fish), Salmoniformes (salmonids), Retropinnidae

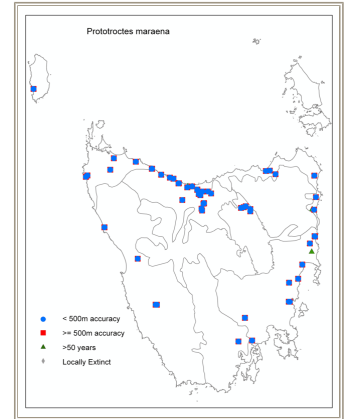
**Status:** *Threatened Species Protection Act 1995*: vulnerable  
*Environment Protection and Biodiversity Conservation Act 1999*: Vulnerable

**Endemic:** Endemic in Australia

**Status:**



The Australian Grayling (*Prototroctes maraena*) is a native fish which migrates between fresh and marine waters. The species occurs in coastal rivers and streams in New South Wales, Victoria and Tasmania. In Tasmania, the Australian Grayling has been found in northern, eastern and western rivers, but has so far not been recorded from the south-west. Adults live and breed in freshwater rivers, and the larvae are swept downstream into coastal waters. Juveniles then remain in marine waters for about six months before returning to the freshwater adult habitat. Little is known of the population size of the species in Tasmania, but it is believed that the species' range has contracted substantially in recent years. The major threat to this species is the construction of barriers to fish movement which prevent adults migrating upstream and larvae moving downstream.



### Key Points

- Important:** Is this species in your area? Do you need a permit? Ensure you've covered all the issues by checking the Planning Ahead page.
- Important:** Different threatened species may have different requirements. For any activity you are considering, read the Activity Advice pages for background information and important advice about managing around the needs of multiple threatened species.

### Habitat

- 'Habitat' refers to both known habitat for the species (i.e. in or near habitat where the species has been recorded) and potential habitat (i.e. areas of habitat with appropriate characteristics for the species and within the species potential range which have not yet been surveyed).
- If in doubt about whether a site represents potential habitat for this species, contact the Threatened Species Section for further advice.
- The Australian Grayling is a diadromous species, migrating between rivers, their estuaries and coastal marine areas; therefore the range and habitat for this species includes freshwater, estuarine and marine areas.
- The known range of the Australian Grayling in Tasmania includes northern (including King Island) and eastern rivers and some western rivers; the species has not been recorded from the south-west, although this is probably due to lack of surveys in the region.
- Habitat for the Australian Grayling includes the following elements: adult Australian Grayling inhabit and breed in rivers and streams, usually in cool waters often with alternating pool and riffle zones; larvae and juveniles inhabit estuaries and coastal seas, although their precise habitat requirements are poorly known.

### What to avoid

- Construction of barriers to fish movement
- Changes to water quality
- Changes to natural flow regimes

### Surveying

Key	Survey reliability more info
M	Peak survey period
M	Potential survey period
M	Non-survey period

To ensure you follow the law - check whether your survey requires a permit. Always report any new records to the Natural Values Atlas, or send the information direct to the Threatened Species Section. Refer to the Activity Advice: Surveying page for background information.

Species	Spring	Summer	Autumn	Winter
Australian Grayling	S S O O N N	D D J J F F	M M A A M M	J J J J A A

- Adult Australian Grayling can be surveyed using seine nets and electro-fishing. However, note that Australian Grayling are

susceptible to poor recovery from electrical shock during electro-fishing.

- The electro-fishing technique requires specialist equipment and expertise, and involves the use of an electric current being passed through the stream water to stun any fish present. When performed correctly, the sampled fish are generally unharmed. This technique should only be performed by trained specialists.
- For more information on sampling freshwater fish including the Australian Grayling, please contact the Threatened Species Section.

### Helping the species

- In order to recognise if the species occurs in waters on your property, learn to identify the adult Australian Grayling. If in doubt, seek expert assistance with identification.
- If you live or work in the area where the species occurs (see distribution map, above), look out for and record any observations of the species. All records of this species can provide important information on distribution and abundance
- If you are interested in knowing for certain whether the species occurs on your land, organise a formal survey. You may need to employ an ecological consultant to do this. Your local Bushcare or Field Naturalist club may be able to assist you with a survey.
- Important! Always report any observations of the species to the DPIPWE Natural Values Atlas, or else provide the data direct to the Threatened Species Section. Records stored on the NVA are a permanent record and are accessible to other people interested in this species.
- Consider the needs of the whole habitat. Preserving a threatened species' habitat is the best way to manage both the species and the environment in which it lives.
- Remember the potential impacts of constructing barriers to fish movement in streams occupied by this species.
- For long-term protection of populations on private land – consider protection of habitat through a vegetation management agreement or conservation covenant. See the DPIPWE Private Land Conservation Program for more details.

### Cutting or clearing trees or vegetation

- The Australian Grayling is susceptible to increased siltation in rivers through the covering of gravel habitat.
- To prevent degradation of stream habitats – avoid clearing of riparian vegetation on rivers and streams as this can lead to increased levels of siltation entering the waterway.

### Construction

- Construction of barriers to fish movement (including water storages, dams and weirs, culverts, water-diversion structures and levee dams) can impact on the Australian Grayling by preventing movement of juveniles returning upstream and passage of larvae downstream to coastal waters.
- Migrating fish, especially juveniles, congregate below barriers because their upstream passage is blocked, and are therefore much more vulnerable to predation.
- To prevent impacts on this species' free movement to and from spawning and larval-rearing locations – avoid construction of barriers to fish movement in rivers in which the Australian Grayling is known to occur.

### Earthworks

- The Australian Grayling is susceptible to reduced water quality in rivers and streams, particularly through siltation of gravel habitat.
- To prevent damage to riverine habitat – avoid earthworks in the vicinity of locations where the species is likely to occur, which can lead to increased siltation of the waterway.

### Changing water flow / quality

- The Australian Grayling is susceptible to changes in water quality, including altered temperature regimes (thermal pollution), reduced dissolved oxygen, increased nutrients, siltation and input of chemical toxins.
- To prevent loss and degradation of habitat – avoid activities which can lead to reduced water quality within riverine habitats, including clearing of streamside vegetation, uncontrolled stock access to waterways, increased run-off and siltation, eutrophication of waterways from input of fertilisers, and input of chemicals from pesticides and herbicides.
- Flow regimes are believed to be important in the successful completion of this species' life cycle, and alterations in natural flow regimes may have profound effects on spawning success and migration to and from marine waters.
- Australian Grayling are thought to require increased flows to initiate spawning, and high flows and flooding may also be important in facilitating migration of larvae and juveniles from coastal marine areas into rivers.
- Changes to river flows can occur through the retention or diversion of water in dams and weirs, and through water extraction which can reduce the frequency and extent of natural flooding in winter, and significantly reduce flows in summer when water is extracted for irrigation.
- To prevent disruption to spawning and migration – avoid changes to river flow patterns through water retention and/or extraction in rivers and streams where this species is known to breed.

### Use of chemicals

- The Australian Grayling is susceptible to changes in water quality including increased nutrients (eutrophication) and input of chemical toxins.
- To prevent loss and degradation of habitat – avoid eutrophication of waterways from input of fertilisers and uncontrolled stock access, and entry of pesticides and herbicides into the waterway.

### Further information

Check also for listing statement or notesheet pdf above (below the species image).

**Cite as:** Threatened Species Section (2021). *Prototroctes maraena* (Australian Grayling): *Species Management Profile for Tasmania's Threatened Species Link*. <https://www.threatenedspecieslink.tas.gov.au/Pages/Australian-Grayling.aspx>. Department of Primary Industries, Parks, Water and Environment, Tasmania. Accessed on 17/10/2021.

**Contact details:** Threatened Species Section, Department of Primary Industries, Parks, Water and Environment, GPO Box 44, Hobart, Tasmania, Australia, 7001. Phone (1300 368 550).

**Permit:** A permit is required under the Tasmanian *Threatened Species Protection Act 1995* to 'take' (which includes kill, injure, catch, damage, destroy and collect), keep, trade in or process any specimen or products of a listed species. Additional permits may also be required under other Acts or regulations to take, disturb or interfere with any form of wildlife or its products, (e.g. dens, nests, bones). This may also depend on the tenure of the land and other agreements relating to its management.