

Action statement

Flora & Fauna Guarantee Act 1988

Australian Grayling (*Prototroctes maraena*)

Taxon ID: 4686

Action statements are developed under the *Flora and Fauna Guarantee Act 1988* (FFG Act). Their preparation and implementation complement the FFG Act strategy *Protecting Victoria's Environment – Biodiversity 2037* and its vision that "Victoria's biodiversity is healthy, valued and actively cared for".

Species and Distribution



Australian Grayling. Image by Tarmo Raadik.



Australian Grayling Victorian Biodiversity Atlas (VBA) records since 1970. See [NatureKit](#) for an interactive map. The Australian Grayling also occurs outside of Victoria.

Conservation Status

Endangered

Listing criteria: 4.1.2 (b)(ii,iii,v)(c)(i,ii,v) of the Flora and Fauna Guarantee Regulations 2020.

This means that:

- its geographic distribution is highly restricted; and
- there is a continuing decline or reduction in:
 - area of occupancy; and
 - the area, extent or quality of habitat; and
 - the number of mature individuals; and
- there are extreme fluctuations in the numbers of mature individuals.

Corresponding International Union for the Conservation of Nature (IUCN) criteria: B2b(ii,iii,v)c(i,ii,iv).

More information on IUCN listing criteria can be found here: [IUCN Red List of Threatened Species](#)

Species Information

Species information such as its description, distribution, ecology and references are provided in the [Australian Grayling Species Forecast Report](#).

Threats

Threats listed below have been identified through expert consultation and published literature.

Threat	Description
Habitat loss, degradation or modification	
Barriers to fish migration	<ul style="list-style-type: none"> • Instream barriers can prevent fish movement and migrations needed to complete life cycle events. This includes downstream migration of adults to spawn, prior to returning upstream, and upstream migration of juveniles from the sea.
Loss of instream habitat	<ul style="list-style-type: none"> • The species is susceptible to sedimentation from disturbance in the riparian zone and nearby catchment, including vegetation damage and removal, presence of livestock, and earthworks.
Altered hydrology	
Altered flow regime	<ul style="list-style-type: none"> • Changes to riverine flow regimes, such as a reduction in the frequency, duration and magnitude of flow events during autumn that trigger spawning migration behaviour, pose a major threat to reproduction, leading to recruitment failure. Climate change will increase the risk of altered flows.
Introduced species	
Introduced fish	<ul style="list-style-type: none"> • Introduced fish, including Brown Trout (<i>Salmo trutta</i>), Rainbow Trout (<i>Oncorhynchus mykiss</i>), Redfin (<i>Perca fluviatilis</i>), European Carp (<i>Cyprinus carpio</i>) and Eastern Gambusia (<i>Gambusia holbrooki</i>), impact Australian Grayling's survival and fitness through competition for resources, predation, and transmission of diseases and pathogens.
Climate change	
Water temperature extremes	<ul style="list-style-type: none"> • Ocean warming may cause a decline in the suitability of marine habitats for larvae and reduce recruitment.
Fire	
Altered fire regimes	<ul style="list-style-type: none"> • Fires can have direct and indirect effects on the species, including from sedimentation and changes in water chemistry from runoff following fire. Fires are likely to increase under the influence of climate change.
Human disturbance	
Recreational fisheries	<ul style="list-style-type: none"> • Incidental capture of the species is likely.

Conservation Objectives

Conservation objectives are informed by the conservation status and criteria (derived from IUCN) in which the species was listed under the FFG Act. This provides a framework to understand how we can work towards recovery and improve the species' conservation status over time as per the objectives of the FFG Act.

The key objectives of this action statement are:

- Mitigate threats to populations and habitat to increase resilience, increase genetic fitness and minimise future population decline.
- Increase the Australian Grayling's range and/or extent, by providing opportunities for natural movement.
- Increase knowledge of biology, ecology, distribution, demography, emerging threats, and conservation requirements of the Australian Grayling.
- Support community participation and improve awareness of the Australian Grayling and conservation of its aquatic environment.

Conservation Actions

The actions below have been identified through expert consultation, published literature and spatial analysis. Actions are listed in alphabetical order to allow all interested parties to prioritise based on their context, capacity and capability. Landscape scale actions may mitigate threats for other species. For more information on where to undertake actions that benefit multiple species and identify the most beneficial locations to undertake actions for this species, please refer to [NatureKit](#).

Action	Description
Community engagement and awareness	<ul style="list-style-type: none">• Increase knowledge and awareness of the presence of the species across its range in the community, and awareness of the 'no-take' status.• Install signage at key recreational fishing locations with information on the 'no-take' status.
Develop, update and apply forestry protections	<ul style="list-style-type: none">• Maintain prescriptions for this species under the <i>Code of Practice for Timber Production 2014 (as amended in 2022)</i> (the Code).• Where relevant, incorporate species-specific protection measures into plans and permits relating to timber harvesting operations in native forest on private land.
Install fishways	<ul style="list-style-type: none">• Assess fish passage barriers (weirs, dams, locks and barrages) and install appropriate engineering solutions (such as fishways) to aid the Australian Grayling in areas where the species is known or likely to occur.
Maintain compliance	<ul style="list-style-type: none">• Maintain compliance and enforcement of fishing regulations for 'no-take' status and non-targeting of the species across its range.
Protect and manage habitat	<ul style="list-style-type: none">• Protect habitat used by the species from activities such as fire or vegetation clearing in riparian zones and the broader catchment, as well as earthworks that degrade riverine and estuarine habitat.
Provide appropriate environmental flows	<ul style="list-style-type: none">• Identify rivers where flow regulation or water abstraction can impact important populations and habitats of the species.• Ensure life history requirements (such as promoting/triggering spawning and migration) are included in waterway management plans.
Research	<ul style="list-style-type: none">• Identify spawning cues and sites, and the influence of water flow parameters for triggering a spawning response, to inform management plans and actions.• Investigate the ecology of the larval and juvenile phase in marine/estuarine environments to inform management actions.
Survey and monitor	<ul style="list-style-type: none">• Use a combination of eDNA techniques and conventional monitoring to improve knowledge of the species' distribution and abundance in areas where the species occurs, to inform management priorities and actions.
Translocation	<ul style="list-style-type: none">• Build resilience by gene mixing through translocation of individuals among subpopulations.

Past Actions

The key conservation management actions listed below have been delivered in the past 10 years.

Past action	Description
Develop, update and apply forestry protections	<ul style="list-style-type: none"> The Australian Grayling has a current species-specific prescription in the Code: <ul style="list-style-type: none"> In the Portland-Horsham and East Gippsland Forest Management Areas: Apply a protection area extending 100 m from each bank for 1 km upstream and 1 km downstream of populations. Avoid constructing new roads in the protection area. The risk of forestry operations was assessed for this species in 2020 under the Victorian Government Threatened Species and Communities Risk Assessment. Additional permanent protections were not found to be required.
Install fishways	<ul style="list-style-type: none"> Fishways have been installed in the Thomson, Yarra, Tarwin and Barwon rivers and in other coastal rivers.
Manage stocking of Introduced fish	<ul style="list-style-type: none"> Stocking of Trout has ceased in the Barwon River.
Monitoring	<ul style="list-style-type: none"> Since 2017 annual autumn surveys have been undertaken in the Mitchell, Thomson, Yarra and Gellibrand Rivers targeting Australian Grayling.
Provide adequate environmental flows	<ul style="list-style-type: none"> Environmental flow releases have occurred to facilitate Australian Grayling spawning in the Snowy, Thomson, Tarago-Bunyip and Yarra River catchments.
Research	<ul style="list-style-type: none"> Genetic studies in 2021 investigated the extent of genetic connectivity in streams across Victoria's coastline. Migration studies were undertaken in 2012, 2013 and 2018 using radiotelemetry. Spawning and recruitment studies were undertaken in the Thomson River in 2013-14 and 2020.

Decision Support Tools

Decision making for conservation actions is supported through the following Victorian Government tools which may be of assistance in choosing the most appropriate or beneficial actions for biodiversity:

- [Choosing actions for nature: NatureKit](#)
- [Biodiversity Knowledge Framework](#)

Further Information

- [Australian Grayling Species Forecast Report](#)
- [Threatened Species Assessment report – Australian Grayling \(*Prototroctes maraena*\)](#)
- [Code of Practice for Timber Production 2014](#)
- [Commonwealth Species Profile and Threats database](#)
- [Victoria's changing climate – understanding the impacts of climate change in Victoria](#)
- [Genetic Risk Index](#)
- [Flora and Fauna Guarantee Regulations 2020](#)
- [IUCN Red List criteria descriptions](#)

Get Involved and Take Action

If you are interested in supporting this species' recovery, there are some important things you need to consider.

The Department of Energy, Environment and Climate Action (DEECA) is committed to engaging and partnering with Traditional Owners on how they wish to be involved in the planning and implementation of actions for this species. Steps must be taken to avoid harm and, where appropriate, ensure actions can deliver cultural benefits.

You can find advice about required approvals, land manager / owner permissions, options and incentives for private land conservation, and engagement with Traditional Owners and public land managers here: [Action statements \(environment.vic.gov.au\)](https://environment.vic.gov.au/action-statements)

To identify the relevant Traditional Owners, use the [Aboriginal Cultural Heritage Register and Information System \(ACHRIS\) Welcome to Country and Acknowledgements Map](#).

Interested parties are encouraged to work together across community, government, private and public land managers and Traditional Owners to undertake these actions and secure funding for their implementation.

You can also register your interest in taking action so we can connect you to other people or organisations working to help us secure the future for this species at threatened.species@deeca.vic.gov.au

Reporting Actions

Activity data is critical to monitoring the implementation and progress of actions and evaluating action statements. These data are also used to:

- Determine progress towards achieving the contributing targets for [Protecting Victoria's Environment – Biodiversity 2037](#).
- Inform the five-yearly State of the Environment Report.

For guidance on reporting actions undertaken on this species, refer to [Activity Data](#).

Submitting Monitoring Data

The Victorian Biodiversity Atlas (VBA) provides a foundational dataset showing where biodiversity occurs across the Victorian landscape and how it may have changed over time. As a core input for decision support tools that inform conservation action, public land management, research activities and reporting, we encourage all participants in the delivery of on-ground actions to submit species records, including for weeds and introduced animals and observations as they carry out their projects.

For further information see: Victorian Biodiversity Atlas (environment.vic.gov.au)

Sign up and begin submitting your data today at: <https://vba.biodiversity.vic.gov.au/>

Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it. We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

We are committed to genuinely partner, and meaningfully engage, with Victoria's Traditional Owners and Aboriginal communities to support the protection of Country, the maintenance of spiritual and cultural practices and their broader aspirations in the 21st century and beyond.



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