



Australian Grayling.
Photo by Tarmo Raadik. Source: DSE

Fishways Fact Sheet

What are fishways?

Fishways (or fish ladders) are simple structures that allow fish to move past physical barriers in rivers and creek. Fishways are commonly used in Victoria to provide fish passage past man-made structures such as weirs, dams, floodgates and roads.

Why is fish passage important?

The majority of Victoria's native freshwater and coastal fish species need to undertake some form of migration during their lifecycle.

Fish passage is critical in allowing:

- adult fish to move to and from spawning habitats,
- juvenile fish to disperse to new habitats,
- access to feeding grounds,
- re-colonisation of new habitats,
- exploratory movements and habitat selection, and
- access to and from refuge areas during droughts or floods.

Why do we need a new fishway at Dights Falls?

Dights Falls is considered one of the most significant in-stream barriers to native fish passage in Victoria due to its location at the bottom of the Yarra River basin. A rock-fishway constructed in 1993 is now largely ineffective and studies have found that poor fish passage at Dights Falls has impacted native fish numbers and diversity upstream.

The construction of a new and improved vertical slot fishway at Dights Falls is expected to benefit up to 2,000 kilometres of the Yarra and its upstream tributaries, boosting native migratory fish numbers and species diversity.

What is a vertical slot fishway?

Vertical slot fishways are a highly effective and common type of fishway. They consist of a gradually sloped concrete channel divided to create a series of pools that allow fish to slowly move up the fishway and around the in-stream barrier. The vertical slot fishway at Dights Falls will be landscaped into the existing bank of the river and the channel will be covered by grates to protect fish from predators.

Is a vertical slot fishway really the best option for Dights Falls?

There are three main types of fishways – rock ramp, vertical slot and fish locks. Melbourne Water has worked with fish experts in Victoria and interstate to determine the most effective solution to provide fish passage past Dights Falls. A vertical slot fishway was identified as the preferred and most effective long term solution.

Do fishways work?

Constructed fishways operate successfully in many parts of Victoria and provide large numbers of fish with access to upstream reaches of rivers and creeks that had become inaccessible. In general, most fishways in Australia only cater for upstream migrations of fish, and not downstream migrations. Further research is required to establish the importance of downstream movements for all life cycle stages of native fish species.

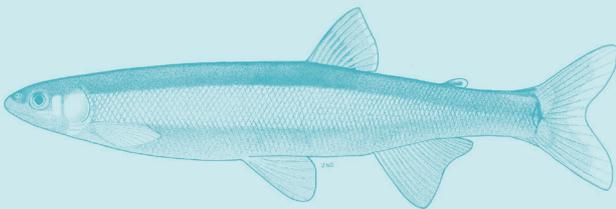
Will litter get caught in the fishway?

While the fishway will be designed to deflect litter at its entry, some items may become lodged in the fishway on occasions. Melbourne Water will monitor the fishway to ensure it works effectively and remove any litter as required.

Will I see fish swimming in the fishway?

The Yarra River is brown in colour due to suspended soil and clay particles carried downstream. While the proposed design of the fishway allows you to look down into the concrete channel it is unlikely that you will see fish moving upstream.

Case study: Australian grayling (*Prototroctes Maraena*)



Australian Grayling (*Prototroctes Maraena*) © ARI

Australian grayling are a native migratory fish that occur in coastal rivers and streams from as far north as Grose River in NSW to Hopkins River western Victoria and in Tasmania.

Grayling spawn in freshwater. Their hatched larvae drift downstream to saltwater estuaries or the sea. At around six months of age the young Grayling need to migrate back upstream to return to freshwater habitats and complete their life cycle.

Grayling are known to reach 330 mm but are more commonly 170-190mm at 3 years of age.

Grayling have undergone severe declines in most of their known habitats and are now listed as vulnerable at a State and National level. The main cause of their decline is thought to be barriers preventing their dispersal downstream and the recolonisation of upstream habitats. Dights Falls Weir is believed to be a major contributing factor to their decline in the Yarra and its tributaries.

Native fish in the Yarra River Basin

The Yarra River supports 17 species of native fish including 11 that are migratory requiring passage between saltwater and freshwater environments as part of their lifecycles.

Native Species	Scientific name	Migratory
Short-finned Eel	<i>Anguilla australis</i>	Yes
River Blackfish	<i>Gadopsis marmoratus</i>	-
Broad-finned Galaxias	<i>Galaxias brevipinnis</i>	Yes
Common Galaxias	<i>Galaxias maculatus</i>	Yes
Mountain Galaxias	<i>Galaxias olidus</i>	-
Spotted Galaxias	<i>Galaxias truttaceus</i>	Yes
Pouched Lamprey	<i>Geotria australis</i>	Yes
Murray Cod	<i>Maccullochella peelii peelii</i>	Yes
Macquarie Perch	<i>Macquaria australasica</i>	-
Australian Bass	<i>Macquaria novemaculeata</i>	Yes
Short-headed Lamprey	<i>Mordacia mordax</i>	Yes
Southern Pygmy Perch	<i>Nannoperca australis</i>	-
Australian Mudfish	<i>Neochanna cleaveri</i>	Yes
Flat-headed Gudgeon	<i>Philypnodon grandiceps</i>	-
Australian Grayling	<i>Prototroctes maraena</i>	Yes
Tupong	<i>Pseudaphritis urvillii</i>	Yes
Australian Smelt	<i>Retropinna semoni</i>	-



For an interpreter, please call the Translating and Interpreting Service (TIS National) on 13 14 50.