

Fluvarium Fact Sheets

Rainbow trout

Oncorhynchus mykiss



Rainbow trout are native to the Pacific coast of North America but were introduced elsewhere for recreational fishing. They were introduced to Newfoundland in the 1880's. There are now landlocked populations of this fish on the island.

Description

Rainbow trout are metallic blue on their back, silvery on their sides and white on their belly. Small black spots are found along its back and fins. A continuous deep pink red band is found along the side of the body, especially on spawning males.

Sea-run individuals usually lack the reddish band and are generally more silvery in appearance.

Size

Sea-run Rainbow trout are larger than stream-dwelling individuals. Atlantic rainbow trout are also larger than their native Pacific counterparts.

- Trout living in streams range from 0.5-1.4 kg (1.1-3.1 lb).
- Sea run salmon generally weight about 5 kg (11 lb) but can reach 9-11 kg (20-24 lb).

Lifespan

Rainbow trout have a lifespan of about 6-8 years.

Habitat

These trout prefer to live in cold, clear, spring-fed rivers with a silt-free rocky or gravelly bottom. Ideally these habitats would have equal amounts of **pool** and **riffle** areas with deep pools for overwintering.

Their optimal habitats also have well-vegetated, stable banks with cover from plants, fallen logs and large boulders.

In lake habitats, large adult trout are found in the middle of the water rather than near shore or near the bottom. Small rainbow trout adults and parr are more often found near shore.

Compared to other trout and salmon, Rainbow trout are least tolerant of acidic conditions.

Box 1: Definitions

Alevin - A newly hatched fish that has a large yolk sac. It is a stage of trout and salmon development.

Fry - A young fish and a stage of trout and salmon development. In trout, fry have absorbed their yolk sac and have emerged from the gravel.

Parr - It is a stage of trout and salmon development where the fish is rapidly growing and has parr marks or dark vertical bars on its side.

Pool area - a deep or shallow part of the stream with slower water flow. Older, larger fish are generally found in deeper pools which provide shelter and shade. Shallow pools are good nursery habitats where you will find more young fish.

Redd - a shallow depression or spawning nest made by salmon or trout.

Riffle area - an area characterized by shallow, fast, well oxygenated, moving water, and contains a gravel bed. It is here that Brown trout migrate to spawn or lay eggs.

Sea-run or Anadromous - fish that live in the ocean but return to freshwater to reproduce.

Range

Native to the Pacific coast, they are found from Alaska to Northern Mexico and eastward into the Rocky Mountains.

They have been introduced throughout North America and the world for recreational angling.

Rainbow trout from California were introduced to Newfoundland in 1887 in Long Pond. Today, they are found throughout the

Avalon Peninsula. The only sea-run or anadromous populations of rainbow trout on the island are found in the Clarenville area.

Diet

These fish are carnivorous and catch their food by actively chasing it.

- Trout in freshwater eat small fish and aquatic and terrestrial insects. This includes blood worms, black flies, mayflies, dragonflies, snails and leeches.
- Sea-run trout feed on small inshore marine fish including smelt, capelin and sculpin.

Reproduction and development

Unlike the char, salmon and other trout on the island, rainbow trout are spring Spawners. In Newfoundland spawning occurs from late March to mid-May.

- They choose spawning sites in shallow headwaters, streams or rivers that have good water flow and a gravel substrate.
- Gravel substrate has spaces for the eggs to fall into reducing the chance they will be eaten by predators or other trout.
- The female uses her tail to dig a nest or redd in the gravel. She and a male may spawn several times in one area, covering up the redd with gravel after each spawning. The female may dig and spawn in several nests with the same or various males.
- Females may produce 800-1000 eggs depending on their size.
- The eggs hatch around April to mid-June but remain buried in the gravel. The young trout are called alevin at this stage and take nourishment from their large yolk sacs.
- After the yolk sac has been mostly absorbed and the water has warmed, the young fish emerge the gravel as fry.
- The fry quickly grow into parr, a stage of rapid growth where parr marks or dark vertical bars appear on their sides.
- Rainbow trout reach sexual maturity in their third to fourth year in Newfoundland. Males generally reach maturity a year before females.
- Adults may migrate to lakes, estuaries or the ocean for their adult lives, but all rainbow trout return to streams to spawn.

- Sea run trout may spend 2-4 years in freshwater before migrating into the ocean.

Predation

These trout are likely preyed upon by larger fish like eels, perch and pickerel, and by birds such as mergansers and kingfishers. Mink, otter and humans will also eat them.

Relation to humans

This species is the most highly valued native game fish in British Columbia. It has been introduced into the Great Lakes where supports an important sport fishery.

It is a minor game fish in Atlantic Canada and there are concerns that they may compete with native Atlantic salmon.

Rainbow trout are successfully raised in aquaculture for export to Europe, Japan and the United States.

Interesting facts

- This species' former scientific name was *Salmo gairdneri*. It was changed as it is more related Pacific salmon than Atlantic salmon.
- Sea-run rainbow trout are also called steelhead trout.

At The Suncor Energy Fluvarium

- See Rainbow trout up close in our series of aquariums on the Fluvarium level.

Additional resources

Hustins, D. 2007. Brown trout and rainbow trout: A journey into Newfoundland waters. Tight line Publishers: St. John's, NL, Canada.

Scott, W.B. and M.G. Scott. 1988 Atlantic Fishes of Canada. Canadian Bulletin of Fisheries and Aquatic Sciences, 219: 731 p.

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