

Goldfish *Carassius auratus*



DON'T LET IT LOOSE

About

Goldfish typically make their way into NS waterways through human release. They easily adapt to life in the wild, with an ability to tolerate a wide range of temperatures and oxygen levels and a diverse variety of food sources, including native species. Goldfish may grow to many times their original size and can rapidly reproduce and overrun lakes and ponds, compromising habitat and food sources from native aquatic species.

Legal Status

Goldfish are an invasive species in NS and are designated as a Regional Containment/Control species by the Inter-Ministry Invasive Species Working Group. Section 10 of the federal [Aquatic Invasive Species Regulation](#) prohibits the introduction of any aquatic species into a region or body of water frequented by fish if it is not native, unless authorized to do so under federal or provincial law. This includes moving aquatic species from one waterbody to another or dumping of aquatic species from the pet/aquarium or food trade into natural waters.

Identification

Despite their name, Goldfish come in a variety of colours, from olive to silvery-white to gold and orange. Recently released Goldfish may still resemble Goldfish sold in pet stores but typically grow up to 35 cm long and weigh between 100-300 g. Goldfish can interbreed with invasive carp, leading to a variety of different body forms. Goldfish have scales on the body but not the head and a dorsal fin



that goes from the middle of the back to the base of the tail. Koi (*Cyprinus rubrofuscus*), also invasive, unlike Goldfish, have barbels (feelers that resemble whiskers) around their mouths.



Ecological Characteristics

Habitat: Goldfish can survive in most fresh waterbodies, but prefer to swim in shallow, slow-moving waters. Groups of Goldfish may gather at the shoreline of lakes and ponds. They can survive in water temperatures between 0–41°C, tolerate extremely low levels of dissolved oxygen, and survive beneath the ice of frozen lakes.

Reproduction: Female Goldfish can lay many eggs in a short period of time, typically in shallow, still water, where they are fertilized by males. Goldfish can reproduce asexually at times, where females produce eggs that do not need to be fertilized. These eggs hatch into identical genetic clones of the mother. A single goldfish can lay up to 40,000 eggs in her lifetime. Because of this, the release of a single female Goldfish into a waterway could potentially lead to an infestation.

Dispersal: Goldfish have been primarily introduced into NS waterways as discarded pets. Once released, they can easily swim to other waterbodies through connecting streams and at times of high water, such as spring. Goldfish may be inadvertently transported between waterbodies by birds, and accidentally by humans in boating equipment, or illegally by use as live bait.

Impacts

Ecological: Goldfish have a broad omnivorous diet. They feed on aquatic plants, small invertebrates, plankton, and the eggs and fry of other fish. Their variable diet, combined with their ability to survive in a variety of habitats, means they can quickly spread and reduce native prey populations in a waterbody.

Goldfish feeding activity disturbs silt, increasing the turbidity of water, which prevents sunlight from reaching aquatic plants. This limits the growth and development of aquatic plants, removing food and habitat for many aquatic species. Goldfish can significantly reduce the biological diversity of a pond or lake. Goldfish can also be vectors of diseases such as koi herpesvirus, which can damage resident fish populations.

Economic: Goldfish use the same food and habitat as juvenile trout. An infestation of Goldfish in a lake could reduce trout populations, making the lake less desirable for fishing.

Best Management Practices

Prevention: The use of live finfish as bait is strictly prohibited in NS. Always follow the guidelines of Clean, Drain, Dry to prevent the accidental spread of Goldfish between waterbodies.

If you are unable to care for a pet Goldfish, Don't Let It Loose! Instead, contact a pet store or the NSSPCA for guidance on how to dispose of or rehome your pet.



DON'T LET IT LOOSE



Mechanical Control: If you discover a goldfish population in a waterbody, measures may need to be taken to contain and suppress the population. It is quite unlikely that mechanical measures will result in complete eradication, so it is important to report the infestation to officials following the reporting guidelines at the end of this section. Mechanical control methods (most of which require permits) include repeated electrofishing with scoop netting, hook & line fishing, and gill netting. Fishing a quantity beyond what is permitted by a Recreational Fishing License requires a provincial Scientific Collection Permit. Call the Department of Fisheries and Aquaculture if you have any question about permits and mechanical control of invasive fish at (902) 424-4560 or email aquaculture@novascotia.ca.



Chemical Control: Pesticide applications to waterbodies infested with goldfish require extensive approvals and permits.

Reporting: If you suspect you have found Goldfish in NS waters, you can report them using the iNaturalist App, available for Apple or Android devices, or by contacting the NSISC at nsinvasives@gmail.com.

References/Informative Links

NSISC: <https://nsinvasives.ca/dont-let-it-loose/>

Aquatic Invasive Species: <https://novascotia.ca/fish/sportfishing/resource-management/ais/>

Regulations for Live Fish Possessions: <https://novascotia.ca/fish/sportfishing/resource-management/ais/FCRA-QandA.pdf>

Clean, Drain, Dry: <https://nsinvasives.ca/clean-drain-dry/>

US Geological Service: <https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=508>

Additional
Contact Info

