Goldfish

ALBERTA REGULATORY STATUS:
UNREGULATED
RELEASE IS PROHIBITED

Last Updated: May 2026

Carassius auratus

syn. *C. discolor, C. burgeri, C. coeruleus, C. grandoculis, C. pekinensis, C. gibelioides, C. mauritianus, C.chinensis, Neocarassius ventricosus*

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Overview:

Native to eastern Asia, including China, Hong Kong, Korea, and Taiwan, goldfish are part of the carp and minnow family (Cyprinidae). This family of fish is known to increase the turbidity (decrease water clarity) of their environment through their feeding behaviour.[1] Goldfish are thought to be one of the first fish species introduced to North America[1] and are a popular household pet, bred for aquaculture and ornamental ponds for over 500 years.[2] When released into the wild, goldfish can cause severe damage to aquatic ecosystems and negatively impact native species.[3] Goldfish consume anything they can fit in their mouths: insects, snails, aquatic plants, detritus, and other fish. This ravenous behavior takes away food from native fish species by rapidly consuming resources. They can grow much larger outside of tanks (some as large as a football or dinner plate!), can live up to 40 years and reproduce multiple times per season combined with a voracious appetite allows Goldfish to rapidly deteriorate aquatic ecosystems. Goldfish can survive cold Alberta winters without issue. There are over 100 known locations of goldfish in Alberta, primarily in municipal stormwater management ponds, with some populations occurring as far north as Fort McMurray.[5] As a common household pet, goldfish are often illegally released or flushed when they become unwanted. In some instances, goldfish have been intentionally released, reportedly occurring as early as the 1600s in North America.[1] Some individuals also use goldfish as live bait while fishing.[2] It is illegal to release, flush and use goldfish as live bait in Alberta. Today, goldfish are one of the most widespread non-native fish in North America due to their easy accessibility in aquaculture and their preference as pets.[5]

Habitat:

Prefer slow moving or stagnant bodies of water, including rivers, lakes, ponds, streams, marshes, bogs, or swamps.[1] Most often found in urban stormwater ponds, golf courses and campground ponds. Goldfish are highly adaptable and survive in a wide range of habitat conditions including extreme temperatures, turbidity, pollution, low dissolved oxygen and eutrophic waters.[3]

Identification:

Stout and deep bodied with 25-31 large scales on their lateral line. They have a large, scaleless head and eyes with a small protruding mouth without barbels. Goldfish have a forked caudal fin, with a stiff serrated spine at the origin of their anal and dorsal fins. Goldfish hatch around 4.5-5mm long with dark pigmented scales but will lose coloration within 2-3 months. Adult goldfish can grow up to 15-45cm long and weigh 0.1-3kg. In captivity, goldfish can range in colour from red-orange to black, gold and silver depending on diet, light, and illness. If released into the wild, goldfish will lose their bright orange colour after a few generations and are most often a shade of green, brown, or grey.

Ecology:

Goldfish are rapid reproducers and can

continued next page

quickly increase their population size. A female goldfish can spawn as early as one year old and may spawn up to 3 times a year. Within each spawning period, a female goldfish can lay anywhere from 500 to 1000 eggs.[3] Goldfish are generalists and their diets consist of a variety of organisms, including benthic algae and weeds, detritus, plants, insects and zoo-plankton.[3] Goldfish also prey on small crustaceans or fish/amphibian eggs and larvae.

Impacts:

Goldfish may deteriorate sportfishing and deter aquatic recreation through increased turbidity and worsened water quality. Removing goldfish from the municipal stormwater management ponds can be costly and damaging to aquatic ecosystems.[1] For example, the City of Red Deer spent $250,000 to cull a population of goldfish from a stormwater pond, resulting in the removal of 882 goldfish. Goldfish eradication efforts from stormwater management ponds routinely cost tens of thousands of dollars; however, these efforts can be quickly undone if more goldfish are reintroduced.[4]

Goldfish feed on fish eggs, insect larvae, and aquatic plants, limiting food availability to native species and reducing biodiversity. Much like their carp and minnow relatives, goldfish also increase water turbidity through feeding. This can reduce the amount of light reaching aquatic plants and contributes to habitat loss.[5] The introduction of goldfish into the wild may increase the risk of algal blooms, as studies have shown that the growth of cyanobacteria is stimulated through passage of their intestines.[2] In addition to these attributes, goldfish have a high reproductive rate, allowing them to easily outcompete native fish and disrupt aquatic ecosystems.[1] Due to their generalist behaviour and rapid reproduction, goldfish have the ability to outcompete native species such as trout. This can lower stocks of native fish species available for recreational and subsistence anglers, resulting in less tourism and food security.[1]

Prevention:

It is important to remember that goldfish are a household pet, and they do not belong in the wild. Releasing goldfish or flushing dead fish can contribute to the spread of non-native fish in the wild and disease in our waterbodies.[3] If you plan to own a goldfish or other aquarium species, it is essential to educate yourself on responsible pet ownership, including life expectancy and required space. There are many options for unwanted fish including returning it to a pet store, talking to your veterinarian about humane disposal, or giving it to another aquarium owner or local school.[3] Do your part as a responsible pet owner and don't let it loose!

Control:

Manual: Goldfish may be removed through netting and angling, but this is a very labour-intensive method is and unfeasible for large bodies of water.[1]

Chemical: Pesticide treatment such as rotenone can be used as a last resort; however, this method can only be used in isolated water bodies without other species of fish.[1]

Reporting: If you have seen goldfish in a lake, river, stream, or stormwater management pond, report your sighting to Alberta Environment & Protected Areas with pictures and the location to epa.ais@gov.ab.ca, submit a report to EDDMapS (eddmaps.org) or call Alberta's invasive species hotline at 1-855-336-BOAT (2628).

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