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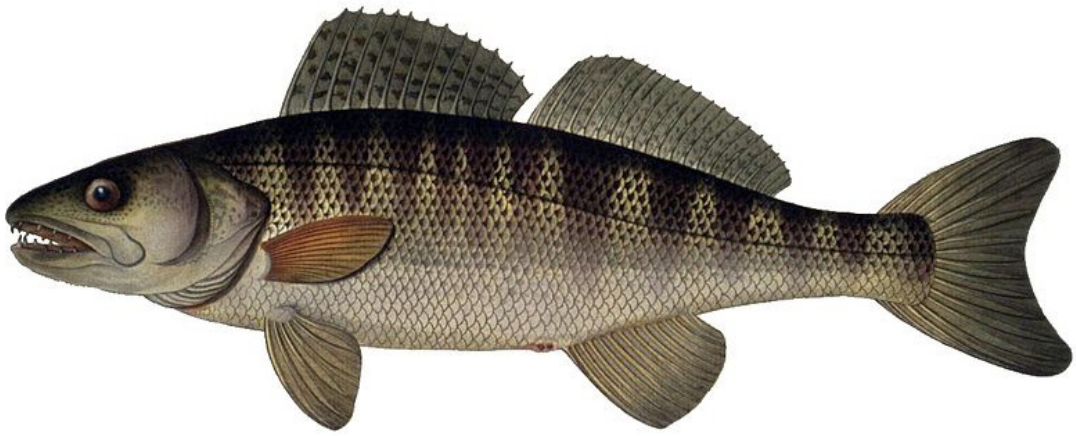
Zander

Sander lucioperca (Linnaeus, 1758)
syn. *Centropomus sandat, Lucioperca linnei, L. lucioperca, L. sandra, Stizostedium lucioperca, S. luciperca, Stizostedium lucioperca*

ALBERTA REGULATION: FISHERIES ACT

Last Updated: February 2018



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Andrew Kennedy, www.just-fish.co.uk

Overview:

Zander is a ray-finned fish of the perch family and is native to the Caspian, Baltic, Black and Aral sea basins of Eastern Europe. It has been introduced to most of Europe, as well as Turkey, Africa, and the Netherlands.[1] It is popular as both a sportfish and, in some countries, as a high-market-value[5] commercial fish because it is considered tasty and desirable.[2] The only established North American population of zander is in a land-locked lake in North Dakota; however, the high climate match of this species in the Great Lakes indicates the potential risk of introduction.[3] Impacts from introductions include reduced populations of prey and competitor fish, as well as trophic changes, and in some cases, extirpation of endemic species, which occurred in some Turkish lakes.[3]

Zander are predatory and feed heavily on prey of small size.[3] This piscivorous fish (fish-eating) will even cannibalize their own species. In salmonid spawning rivers, zander can prey on the descending smolts, negatively affecting salmonid populations.[4] When introduced to water bodies with pike and perch, zander force both species away from their preferred habitat.[4] There is concern among fish resource managers that the introduction of zander may cause a collapse in resident prey fish stocks.[3]

As of January 1, 2016, the possession, sale, or transport of this species in Alberta is illegal under the Fisheries Act.

Habitat:

The zander lives in open, pelagic waters of lakes reservoirs, as well as rivers that run moderately fast. It thrives in turbid, highly oxygenated waters with moderate vegetation and stony or sandy bottoms. It can tolerate brackish waters with salinities up to 12 ppt.[1] Zander inhabit temperate waters with temperatures ranging from 6 to 22°C and latitudes between 67°N to 36°N.[2]

Identification:

Zander are a long, slender fish.[3] Body color is blue-grey to green-brown with dark spots on the back and flanks, the belly is white to blue. The fins are yellow-grey.[1] Sides can be silvery and bear 8-12 dusky vertical bands.[5] The mouth has many small teeth, but is distinguished by 1-2 enlarged canines, hence the common name vampire fish, in the anterior part of each jaw used for grasping prey.[1]

Zander have two dorsal fins separated by a narrow space; the first with 13-20 spines and the second with 1-2 spines

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Zander *(continued)*

and 18-24 soft rays. The caudal fin has 17 soft rays, and the anal fin has 2-3 spines and 10-14 soft rays.[1] Dorsal and caudal fins bear rows of black spots between the soft rays.[1] Zander have 45-47 vertebrae and the lateral line bears 80-97 scales.[2]

Zander grow, on average, up to 50 cm in total length, but can reach 100 cm long and a maximum weight of 15-20 kg.[4] Their maximum age is inversely related to growth rate, with Northern populations reaching 20-24 years of age, and Southern populations only living about 8-9 years.[4]

Ecology:

In the spring, zander adults migrate to shallower waters with gravel and pebble substrate for spawning.[1] They will migrate from brackish waters to freshwater for spawning; however, migrations can be absent, or can range anywhere from 10-30 km and up to 250 km.[4] Zander spawn in pairs when water temperatures reach 10 to 14°C.[4] Males are territorial and construct a nest about 5-10 cm deep and 50 cm in diameter in sand, gravel or among plant roots.[1] Spawning occurs at dawn or night, usually in turbid waters about 1-3 m deep.[1] Females spawn once per year[2] and deposit 150-400 yellow-amber[5] eggs, which are 0.9 to 1.5 mm in diameter. The females then depart and leave the males to guard the nest and fan the eggs with their pectoral fins.[1]

Optimal water conditions for egg development are temperatures between 12-20°C and oxygen concentrations above 4.5 mg per litre.[4] Eggs hatch at about 110 degree days and the 5-4 mm long larvae feed on small zooplankton.[4] When fry reach 10-25 mm in length they begin preying on other fish, and by a length of 10 cm their diet is primarily other fish.[4] Zander reach maturity at a total length of 28 to 46 cm. Sexual maturity is reached usually at age 4, but can be attained at ages 3-10.[2]

Zander form small schools and prefer waters with some vegetation for cover. They will occupy clear waters, if deep enough for dark, daytime refuge.[1] Habitat preferences vary in the summer. Adult zander exhibit increased activity levels at dusk. During fall, zander inhabit waters 1.2-1.8 m deep and then move to deeper waters to overwinter.[1]

Zander feed on cyprinids (minnows, carp), smelt, and the smolts of salmonids.[4] Zander will also cannibalize their own species.[1]

Economic Impacts:

The decline of native sportfish populations could have impacts on recreation and tourism.

Environmental Impacts:

Zander feed heavily on small fish,[3] specifically salmon smolts.[4] There is concern among fish resource managers that the introduction of zander may cause a collapse in resident prey fish stocks.[3] Zander introductions have also reduced population densities of cyprinids and force perch, and other species, away from their preferred habitat.[3] There is concern that zander and walleye could hybridize; however, there has been no evidence of this.[3]

Sociological Impacts:

Loss of native fish species and transformation of fish communities results in the intrinsic loss of natural capital and enjoyment of natural areas.

Prevention:

Intentional releases are responsible for zander introduction. Dispersal is facilitated by zander migration and escape from landlocked water bodies during flooding.[3] Never empty your aquarium into natural water bodies.

Control:

Currently, there are no established control options for zander other than preventing introduction and fishing. If caught, zander should be killed and not released. Report any sightings.

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Zander *(continued)*

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