
LONGNOSE SUCKER (*Catostomus catostomus*) and LARGESCALE/COURSESCALE SUCKER (*Catostomus macrocheilus*)

Ecology and Life History

The longnose sucker occurs circumpolar, ranging from across Canada into Siberia, while the largescale sucker throughout most of BC, southern AB, and into Washington State (Scott and Crossman, 1973). Although these two species are distinct, they will be discussed together because both species have similar life histories, occupy similar habitats, and their range overlaps. These suckers are a cool water benthic species, preferring the bottom of lakes or streams on sandy, cobble, or boulder shorelines (Scott and Crossman, 1973; Coker et al, 2001); Roberge *et al*, 2002). In general, longnose suckers appear to occupy deeper, cool water habitats, while largescale suckers tend to occur in shallow areas with aquatic macrophytes (Edwards, 1938; Roberge *et al*, 2002).

These suckers are benthic foragers, preferring insects, and other small prey items such as crustaceans (e.g., amphipods such as *Gammarus* sp.), and molluscs (e.g., snails such as *Physa* sp.) (Scott and Crossman, 1973). Adults tend to consume larger prey, while young of the year fish (YOY) prefer smaller prey such as plankton and algae. Largescale suckers have been documented to undergo diel migration within the water column, typically moving from deeper water during the day to shallower shoreline areas during the evening (Scott and Crossman, 1973; Roberge *et al*, 2002).

Longnose suckers spawn in the early springtime, usually between March and May when water temperatures reach 5°C in inlet or outlet streams (Coker *et al*, 2001; Scott and Crossman, 1973). Largescale suckers tend to spawn slightly later, when temperatures reach 7 to 10 °C in streams (Coker *et al*, 2001; Scott and Crossman, 1973). Spawning tends to cease for both species when temperatures reach approximately 15°C indicating that the spawning period likely overlap where they co-occur (Coker *et al*, 2001). Spawning generally occurs in streams, but has been documented to occur in shallow lake margins (Scott and Crossman, 1973). Stream spawning longnose suckers tend to spawn in run habitats, at depths from 0.1 to 0.6m, at water velocities between 0.3 to 0.45 m/s, over grave cobble substrates (Roberge *et al*, 2002). Stream spawning largescale suckers tend to spawn in riffle/pool habitats, at depths between 0.6 and 2.0 m, over sand to cobble substrates.

Okanagan Lake System

Beach seine results indicated that suckers comprised a very small percentage (typically less than 1%) of the near shore community during the spring, summer and fall sampling. In general, individuals sampled using beach seines were juvenile or young of the year fish. During the spring, YOY suckers were found at two sites, in the far northern and southern ends of the study area (Site 3 and 15), relatively far from streams. Based upon this data, it is probable that a small percentage of the sucker community uses some shoreline areas for spawning, as documented in Scott and Crossman (1973). Juvenile suckers were sampled in shallow littoral areas with aquatic vegetation. Generally, these areas occurred in Sutherland Bay, and near the Kelowna Yacht Club, and tended to coincide with a high occurrence of adult conspecifics.

Adult largescale suckers were sampled in every site during all sampling periods using the gill net. These fish were the third most prevalent fish sampled (12.3, 10.3, and 11.8% in the spring, summer and fall, respectively), behind peamouth chub (*Mylocheilus caurinus*) and northern pikeminnows (*Ptychocheilus oregonensis*). The largescale sucker was more common than the longnose sucker in the shallow near shore areas, most likely because the longnose sucker occupies deepwater habitats. Longnose suckers were less common, typically comprising between 0.5 to 1.5% of the community. However, a large number of longnose suckers (31 in total, versus 0 to 5 for all other sites) were sampled at Site 7, near Francis Brook during the spring sampling period. Longnose suckers may have been out-migrating following spawning in this stream during this time period because the temperature was approximately 15 °C in Okanagan Lake at this time.

No specific shore spawning areas were identified during the survey, although it is probable that these species may use some shorelines with cobble/gravel substrates. Based upon the data collected it appears that YOY suckers may reside within streams, which are their most common spawning areas. Timing for spawning in the Okanagan Lake system would likely begin in late March and continue through to early June when temperatures typically reach 15 °C. Due to the large variety of habitats where adult largescale suckers were sampled, spawning and rearing habitat does not appear to be limiting factor for this species. Due to the relatively few number of longnose suckers sampled, determination of limiting habitat is difficult. However, based upon the large amount of deepwater habitat that these fish use, and their similarities to largescale suckers, it is most likely that spawning habitats are not limiting. Out migration of spawned longnose suckers likely occurs in mid to late June from streams, as a large number of longnose suckers were sampled at the mouth of Francis Brook at this time.

Suckers are believed to be an important fish in this system. The large differences in numbers sampled between the two species is interesting, and most likely occurs because in the southern portion of their range, longnose suckers have more restricted habitats, which occur in the deep, cool portion of lakes (Scott and Crossman, 1973). Based upon morphological characteristics, some specimens appeared to have characteristics of both species, and it may be that these two species interbreed to some extent. The largescale sucker is known to hybridize with the white sucker (*Catostomus commersoni*) and the longnose sucker is known to hybridize with the white sucker. Thus, the largescale sucker may also hybridize with the longnose sucker in the Okanagan system (Scott and Crossman, 1973). Determination of the extent of hybridization, and habitat segregation will require further investigation.

Based upon the numbers of fish sampled, suckers do not appear to be a species of concern and do not appear to be affected by development or inwater structures to the same extent as more sensitive species. For these reasons, suckers are not considered to be species of concern in the system.

References

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