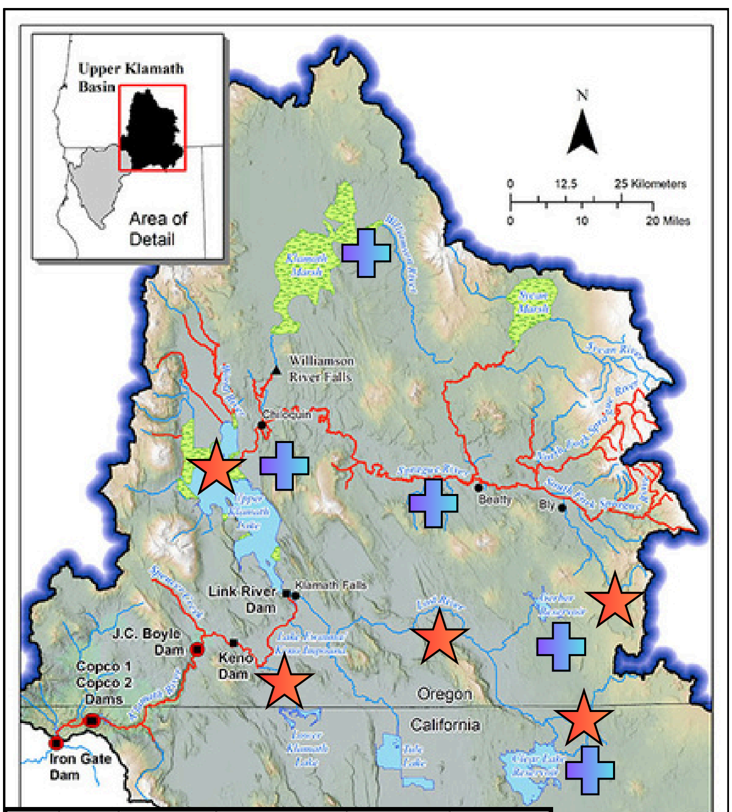
Lost River & Shortnose Sucker

Distribution



Species	Location	Population Size	Reproductive Success	Larval/Juvenile Survival	Adult Survival
SNS	UKL	Low	Presumed Adequate	Low/Zero	Moderate
SNS	CLR	Low	Intermittent	Moderate	Moderate
SNS	GBR	Low	Intermittent	Presumed Adequate	Presumed Adequate
LRS	UKL	Moderate	Presumed Adequate	Low/Zero	High
LRS	CLR	Low	Intermittent	Moderate	Moderate
LRS/SNS	Other	Low	Low/Zero	Low/Zero	Presumed Adequate

The Lost River Sucker and Shortnose Sucker can be found in several bodies of water within the Upper Klamath Basin. These include:

- Upper Klamath Lake (UKL)
- Clear Lake Reservoir
- Lake Ewauna
- The Klamath River downstream to Keno Dam
- The Lost River
- Gerber Reservoir

** As of 2024, the Tule Lake Sumps have re-filled, and it is anticipated that suckers already have or will re-populated during the period of this consultation.

The recent observations indicate that the suckers are spawning in specific areas:

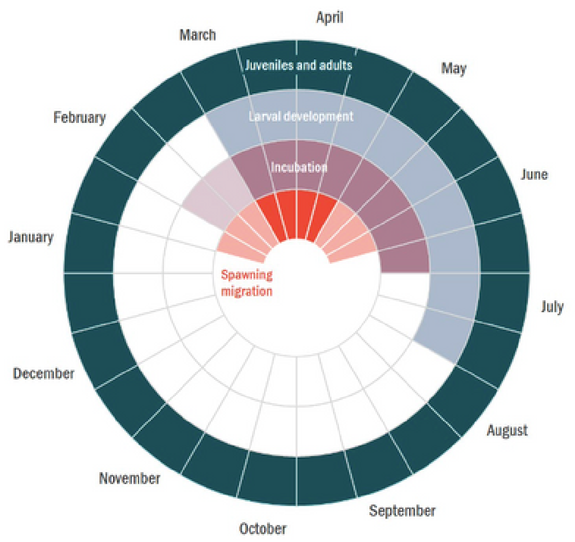
- LRS: They spawn in the Williamson and Sprague Rivers (tributary spawners) and along the eastern shoreline springs of UKL.
- SNS: They predominantly spawn in the Williamson and Sprague Rivers and have also been observed spawning in Clear Lake Reservoir and Gerber Reservoir

** Emergent wetland habitats, especially around the Delta, are crucial for larval rearing, providing protection and diverse food resources. The quality and extent of these habitats fluctuate with water levels

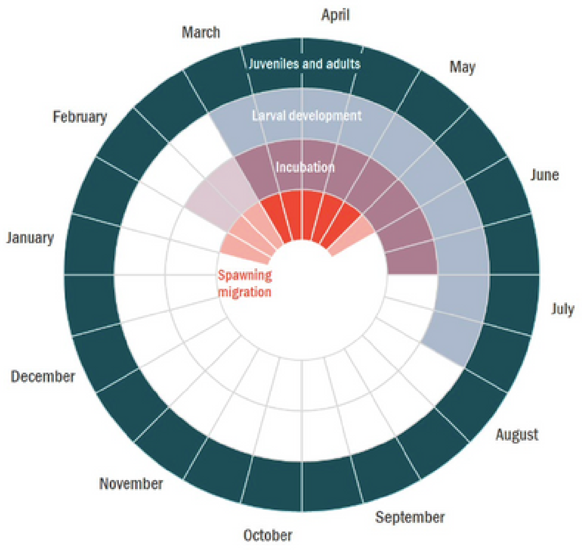
** Spawning mainly takes place over gravel substrates in rivers and at shoreline spring habitats less than 1.3 meters (4.3 feet) deep

Life History and Timing

Summary of temporal life stage domains for Lost River Suckers



Summary of temporal life stage domains for Shortnose Suckers



Note: Within a ring, darker colors indicate peak periods.

Spawning Migration: Adult LRS and SNS begin migrating to spawning grounds as early as February when water temperatures reach 6°C and adequate reservoir surface elevations are present. In UKL, spawning migrations start around March at temperatures of 10°C for LRS and 12°C for SNS.

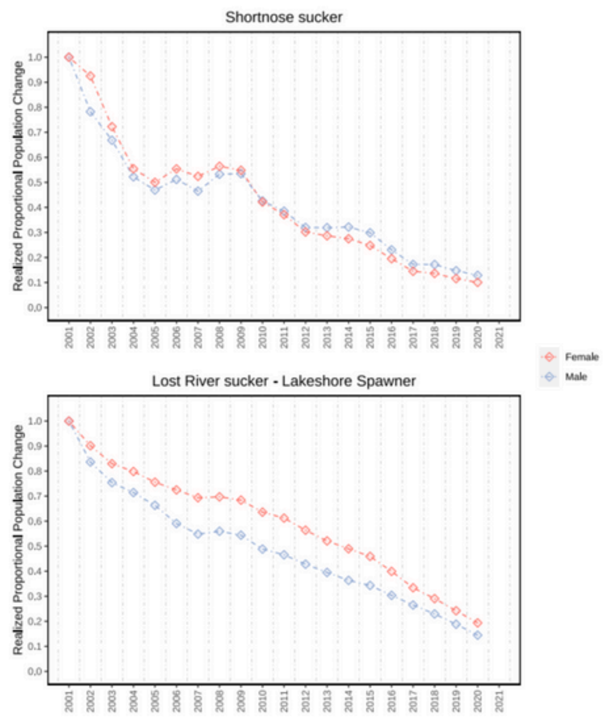
Incubation: Sucker eggs require flowing water and relatively porous substrate to allow gas exchange, waste removal, and protection from predators. Eggs hatch approximately 8 days after fertilization, depending on temperature. Larvae emerge from the gravel approximately 10 days after hatching, when about 7 to 10 millimeters (0.2 inches to 0.6 inches) total length and mostly transparent with a small yolk sac

Larvae: After emerging from gravel, larvae quickly transition from tributaries to lakes, with peak larval drift occurring in mid-May. In lakes, larvae prefer nearshore areas, especially those with emergent vegetation, which offers protection from predators and access to prey. There are differences in habitat use: SNS larvae are more commonly found in vegetated nearshore areas, while LRS larvae often inhabit open water

Juveniles: Juvenile suckers transition from surface feeding to feeding near the lake bottom when they reach a size of 20-30 millimeters (0.8-1.2 inches). In Upper Klamath Lake (UKL), juveniles inhabit a variety of environments, from deeper offshore areas to shallower vegetated zones. One-year-old juveniles use shallow habitats in spring but move to deeper waters in early summer, returning to shallower areas as summer progresses. Catches of age-0 suckers peak in August and decline by October, with some leaving UKL for the Link River during this period. In contrast, Clear Lake Reservoir lacks wetlands and has limited vegetation, yet juvenile suckers there seem to have better survival rates than in UKL. Information on juvenile sucker survival in Gerber Reservoir is limited but is thought to be similar to that in Clear Lake Reservoir

Adults: After spawning, suckers are found throughout Upper Klamath Lake (UKL), particularly in Pelican Bay, at depths greater than 2 meters for protection from avian predators and for food access. Although Pelican Bay was thought to be primarily used during poor water quality conditions, recent data show that many suckers utilize it throughout the summer. In times of low water quality, adults tend to congregate in the northern part of UKL or seek refuge in cool-water springs.

Population Trends



Population Trend Factors

- **Habitat Loss and Degradation**: Loss and degradation of spawning and rearing habitats due to dams, dikes, and other modifications have been primary drivers of population declines
- **Water Quality Issues**: Poor water quality conditions can compromise fish health, making suckers more susceptible to disease and parasites 72, and can lead to increased mortality
- **Entrainment**: The entrainment of larval and juvenile suckers into unscreened diversions and water control structures has been identified as a significant source of mortality
- **Overharvest**: Historical overharvest, particularly of adult suckers, has contributed to population declines
- **Predation**: Increased predation from both native and non-native species, including avian predators, can negatively impact sucker populations
- **Competition with Non-Native Species**: Non-native fish species can compete with suckers for food and habitat
- **Hybridization**: Hybridization among sucker species can result in the loss of pure genotypes and negatively affect population viability
- **Low Recruitment Rates**: Persistent failures in juvenile recruitment have been documented, contributing to the overall decline of sucker populations
- **Climate** Change: Changes in hydrology and water temperatures due to climate change can exacerbate existing threats and stressors on sucker populations
- **Small Population Size**: The small size of sucker populations increases vulnerability to catastrophic events and demographic effects, such as inbreeding
- **Disease and Parasites**: Increased presence of parasites and diseases can lead to higher mortality rates among both juvenile and adult suckers