

Borax Lake Chub SMU

ESA Designation:

Endangered 1982

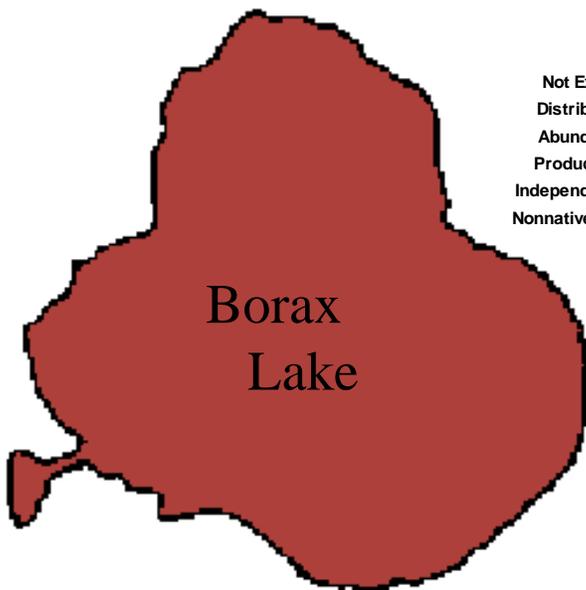
State Status:

Endangered

Interim Assessment:

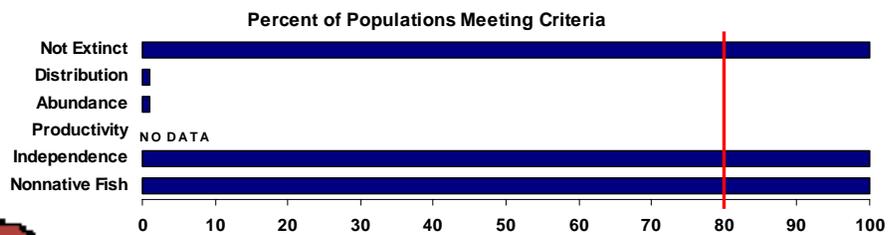
At Risk

The Borax Lake Chub SMU consists of one population that inhabits a single 4.1 hectare lake in the Alvord Desert, Harney County, Oregon. Only three of six interim risk criteria were met, thereby classifying this SMU as “at risk”. The basis for its listed status is not population size, but the security of a very limited, unique, isolated, and vulnerable habitat. Borax Lake is a natural lake fed by geothermal springs, which is perched 10 meters above the desert floor on fragile salt deposits. Numerous recovery measures implemented since listing have improved the conservation status of Borax Lake chub (*Gila boraxobius*) and protection of its habitat. The entire 259 hectare critical habitat is now in public (Bureau of Land Management) or conservation (The Nature Conservancy) ownership. The Nature Conservancy ended cattle grazing and diversion of lake water for irrigation which threatened the lake shores. In addition, passage of the Steens Mountain Cooperative Management and Protection act of 2002 removed BLM lands from mineral and geothermal development. Lack of recent monitoring efforts since 1997, a recent increase in recreational off-road vehicle use around the lake, and potential future impacts to the aquifer from geothermal groundwater withdrawal on private lands remain as threats to the Borax Lake chub and its habitat.



Borax
Lake

100m



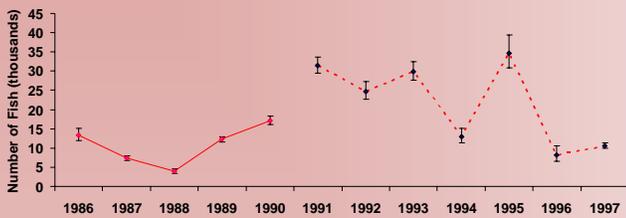
Borax Lake



■ All criteria met
■ 4-5 criteria met
■ < 4 criteria met
■ Extinct

Abundance- fail

Borax Lake Chub Abundance Estimates



- Data describing the abundance of the Borax Lake chub population from 1998 to 2004 are not available.
- Abundance estimates obtained from 1986-1997 fluctuated from 3,934 to 34,634 fish. Population abundance was underestimated prior to 1991, and is not comparable with recent estimates.
- The most recent abundance estimates, obtained in 1996 and 1997, were some of the lowest estimates in recent years.
- A recent review of the conservation status of Borax Lake chub cited lack of recent and ongoing population and ecosystem monitoring as an argument against downlisting Borax Lake chub at this time.
- Borax Lake chub fail the abundance criterion.

Distribution- fail

- The distribution of Borax Lake chub is limited to a single 4.1 hectare lake.
- Records are not available to evaluate whether Borax Lake chub existed historically at other locations.
- Because of its highly restricted distribution, dependence on a single water source, perched topographic position, and existing threats to its fragile habitat, the Borax Lake chub is vulnerable to catastrophic loss.
- Borax Lake chub fail the distribution criterion.

Additional Information

- Recreation use of the Borax Lake critical habitat is currently being assessed to determine the types and timing of use. Oregon Department of Fish and Wildlife has undertaken a detailed assessment of Borax Lake chub.
 - Issues currently under consideration by the BLM include permanent elimination of livestock grazing and closure of roads within the critical habitat.
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Productivity- not assessed

- No data are available to assess productivity and the rate of population growth at the population level. This criterion was not assessed.
- Limited population age structure data are available. These data suggest that the Borax Lake chub population consists primarily of age 1 fish (67-79 percent), with only a few age-2 and age-3 fish present.
- Because Borax Lake chub are only found in one location and the population is dominated by a single year-class of adults, the species has a high inherent risk of extinction.

Hybridization and negative impacts of nonnative fishes- pass

- Interspecific hybridization and other immediate threats from nonnative fishes have not been identified as issues for Borax Lake chub.
- Borax Lake chub pass this criterion.

Reproductive Independence- pass

- All Borax Lake chub are naturally produced. No hatchery program exists.
- Borax Lake chub pass this criterion