

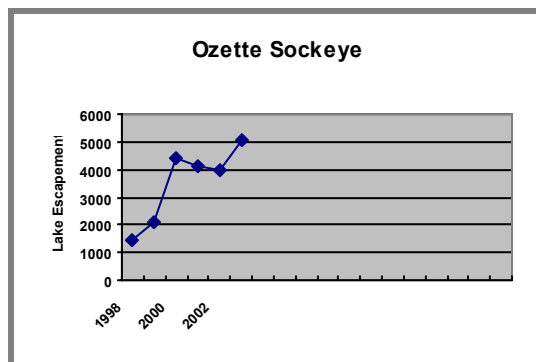
STOCK STATUS

1992 STATUS Depressed	2002 STATUS Unknown
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STOCK STATUS RATING DATA

USEFULNESS FOR RATING STOCK STATUS:
Excellent

YEAR	LAKE ESCAPEMENT
1998	1,430
1999	2,077
2000	4,399
2001	4,116
2002	3,990
2003	5,075



Data are estimates of escapement of adult sockeye into Lake Ozette based on visual and underwater video camera counts at a weir in the Ozette River below the lake outlet. Since sockeye are enumerated in May and June when they enter Lake Ozette but do not spawn for another four to eight months, this run size estimate should not be considered an estimate of spawning escapement. Detailed analysis of historic abundance data has led Makah Tribal managers to conclude that counts prior to 1998 are unreliable and significantly underestimated stock abundance. An update in equipment for the video capture program is providing more accurate enumeration of fish passage, and more recent estimates will be error checked (Mike Crewson, Makah Tribe, personal communication.).

Only four years of reliable abundance data are available for Ozette sockeye, therefore stock status is **Unknown** in 2002. Ozette sockeye were listed as threatened under the federal Endangered Species Act in 1999.

STOCK DEFINITION

Ozette sockeye were identified as a stock based on their distinct spawning distribution, genetic composition and life history characteristics.

SPAWNING DISTRIBUTION: Spawning occurs in Lake Ozette on Olsen’s and Allen’s beaches near Umbrella Creek. Spawning also occurs in Umbrella Creek and in Big River, tributaries to Lake Ozette located at the Northeast end of the lake.

SPAWNING TIMING: Spawning generally occurs from late September through January and peaks in November.

SOOES/OZETTE – OZETTE SOCKEYE

GENETIC ANALYSIS: Allozyme analysis from juvenile samples collected in 1990 showed that Ozette sockeye are genetically distinct from all other Washington sockeye stocks examined. DNA analysis from adults sampled on spawning areas at Olson's Landing and Allen's Bay showed significant differences between Ozette sockeye and Baker and Samish sockeye (the only comparisons made) and some differences between the Olson's Landing and Allen's Bay spawning groups. Interpretation of these results is complicated by detection of significant differences between spawners collected in two successive years at Olson's Landing (Winans et al. 1996). Comparisons of DNA spawners from different years from the same beach and between spawners from the two different beaches locations within the same year found significant differences temporally and spatially. Temporal differences among different years within the same beach were found to be greater than differences between the two beach spawning populations. The Technical Recovery Team, led by NOAA Fisheries, is currently conducting an analysis to determine the population structure of all spawning aggregation of Lake Ozette sockeye (Mike Crewson, Makah Tribal Fisheries, personal communication).

STOCK ORIGIN

This is a **native** stock with **composite** production. Broodstock from the Quinault River were introduced for one year into the Ozette system in 1982. Their contribution to the native stock is not known, but is thought to have been insignificant. The Makah Tribe is conducting a hatchery supplementation program for tributary-spawning sockeye, using native beach spawning sockeye at their Umbrella Creek Hatchery. Eyed eggs are outplanted from Makah National Fish Hatchery located in Neah Bay for hatching, early rearing and release from two remote site incubator locations, one each on the upper reaches of the Umbrella Creek and in Big River drainages (Makah Fisheries Management 2000).