
White Sturgeon (Kootenai River system)

Acipenser transmontanus

Actinopterygii — Acipenseriformes — Acipenseridae

CONSERVATION STATUS / CLASSIFICATION

Rangewide: Critically imperiled population (G4T1)
Statewide: Critically imperiled (S1)
ESA: Endangered
USFS: Region 1: No status; Region 4: No status
BLM: Threatened, Endangered, Proposed, and Candidate (Type 1)
IDFG: Game fish; Endangered

BASIS FOR INCLUSION

Endangered under the U.S. Endangered Species Act; declining population trend.

TAXONOMY

The white sturgeon was described in 1836 by Richardson (Nelson et al. 2004).

DISTRIBUTION AND ABUNDANCE

The white sturgeon occurs in large rivers Pacific Northwest from central California to southwest Alaska (Wydoski and Whitney 2003). The Kootenai River population has been geologically isolated from other populations since the last ice age. The population ranges from Kootenay Lake in British Columbia up the Kootenai River through Idaho to Kootenai Falls in Montana. This population was listed as endangered in 1994. The population was estimated to be 1468 fish during 1997, and most individuals were greater than 25 years of age (USFWS 1999a).

POPULATION TREND

The Kootenai River white sturgeon population has been in general decline since the mid-1960s. In 1997 the wild population was augmented with 2283 juveniles (USFWS 1999).

HABITAT AND ECOLOGY

Large adults generally occur in the larger, deeper pools of main river channels (Wydoski and Whitney 2003). Juveniles and subadults seasonally occupy sloughs off the main channel. In the Columbia River, young-of-the-year fish occur in 12–27m (39–88 ft) of water. This species is a broadcast spawner and normally uses areas with fast current, such as rapids or areas with hard substrates.

The white sturgeon is the largest freshwater fish in North America. The largest verified record was a 630 kg (1387 lb) fish caught during 1897. Other unverified records approach 900 kg (2000 lb) and 6 m (20 ft) in length. Individuals reach sexual maturity at ages 9–16 yrs, corresponding to lengths of about 1.2 m (4 ft) for males and 1.8 m (6 ft) for females. Females do not spawn annually but repeat spawning at intervals of 3–11 years, depending on food availability. Spawning occurs during the spring at water

temperatures of 8–19 C (48–63 F). The white sturgeon is primarily a benthic feeder; juveniles feed opportunistically on amphipods, clams, insects, and fish eggs. Larger individuals also eat fish, crayfish, and other larger items.

ISSUES

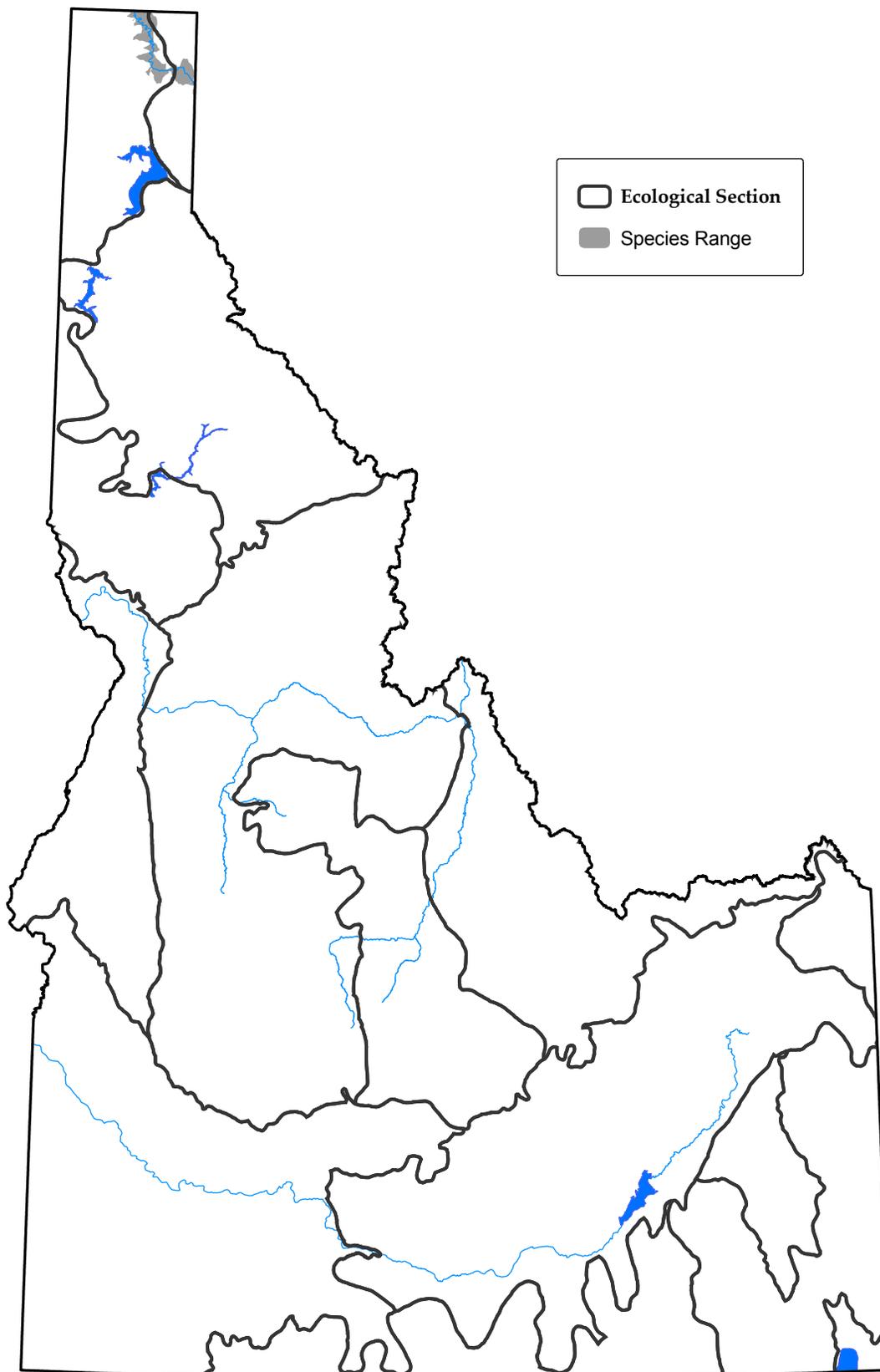
Construction of Libby Dam upriver in Montana has altered river flow patterns and reduced river productivity. The development of agricultural lands has resulted in a loss of habitat for juvenile fish; dikes constructed along the river channel to prevent flooding eliminate slough backwaters which has caused a decline in juvenile recruitment (USFWS 1999). Excessive levels of pollutants in the 1950s and 1960s may have reduced reproduction.

RECOMMENDED ACTIONS

Efforts are needed to restore habitat required for natural reproduction. USFWS has proposed several administrative actions intended to facilitate restoration. One recommendation is to adopt adaptive operational guidelines for Libby Dam to provide suitable flows and temperatures for successful recruitment. Another is to coordinate planning and implementation of annual flow proposals among involved agencies. A third proposed action is that monitoring be conducted to evaluate effects of flow augmentation (USFWS 1999). Additionally, there is a need to refine, implement, and evaluate a genetically sound white sturgeon conservation aquaculture program.

White Sturgeon (Kootenai River system)

Acipenser transmontanus



10 August 2005
Fish information is from Idaho Fish and Wildlife Information System, Idaho Department of Fish and Game and displayed at the 6th code hydrologic unit.

