

CONSERVATION FISH CULTURE

JUVENILE MONITORING

- Researchers monitor juvenile releases annually using several monitoring methods (underwater video, boat electrofishing, gillnets, angling, set line and sonic telemetry) to determine their survival, growth and future stocking levels
- Monitoring is conducted in the Transboundary Reach Area, the section of the Columbia River between Hugh L. Keenleyside and Grand Coulee dams
- When the first release of juvenile sturgeon from 2002 reach adulthood around 2020, it is expected other recovery measures will be in place to ensure their progeny successfully recruits to the population



JUVENILE RELEASE EVENT

- Juvenile release events are scheduled each spring with help from Columbia basin students and community groups
- Sturgeon are released to the upper Columbia River, near Trail and Castlegar B.C., and across the border in the Roosevelt Reach
- Year-old sturgeon average 20 cms (8 inches) in length at their time of release



ADULT BROODSTOCK CAPTURE

- During May-June, wild adult sturgeon are captured using set lines
- After an inspection of the sturgeon for sex and maturity, mature adults are transported to the hatchery while the others are tagged and released back to the river



TAG & SCUTE MARKING

- Each fish is marked by the removal of two scutes and a with PIT tag, at about 9-10 months of age
- Marking with PIT tags identifies individuals, allowing assessment of growth and survival of hatchery fish.
- Currently ~12,000 to 15,000 fish are PIT-tagged and released annually to the upper Columbia River



Upper Columbia white sturgeon are listed as Endangered under Canada's federal Species at Risk Act (SARA)

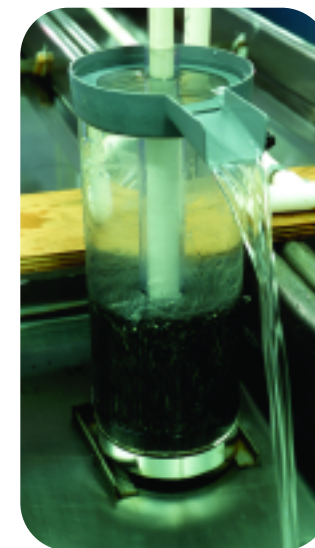
EGGS & SPERM (GAMETE) COLLECTION

- Breeding occurs when adult sturgeon have fully matured
- To check maturity, eggs are removed and examined
- Hormonal treatments are used to induce female maturation and to synchronize their maturity with males
- Mature eggs are expressed by hand and sperm is collected with a syringe
- Fertilization is accomplished by gently mixing the sperm with the eggs together in a bowl for 3-5 minutes
- A silt solution is added and gentle stirring continues for up to an hour to prevent the eggs from sticking together
- When the adults have been spawned they are held for a short time before their release back to the river



INCUBATION & REARING

- Fertilized eggs from each family are incubated in separate upwelling incubation containers until hatch
- Newly hatched larvae of each family are raised for one year in separate tanks



"...helping hands for ancients of the deep"

involves the support of many partners to bring the white sturgeon back from the brink of extinction. Once abundant, the white sturgeon has suffered a serious decline in the population due to numerous changes to its river environment. Conservation Fish Culture is a recovery measure that provides a helping hand to the white sturgeon's life cycle to prevent the population from disappearing. Conservation fish culture work was initiated to help restore the population following the formation of the Upper Columbia White Sturgeon Recovery Initiative in 2000 and a commitment to prevent the wild sturgeon population from declining further.

Conservation Fish Culture differs from traditional methods of fish hatchery production. This approach refers to hatchery projects whose main objective is to rebuild native fish populations and to preserve genetic diversity. Such work is generally not intended to continue indefinitely, and is discontinued once the population has reached target abundance and becomes self-sustaining.

View the Initiative Web site at www.uppercolumbiasturgeon.org



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Funding support for the conservation fish culture program is provided by Initiative partners and the work is carried out by the Freshwater Fisheries Society of BC at the Columbia River Sturgeon Conservation Hatchery, located at the Hootenay Trout Hatchery, near Cranbrook B.C. and at the Columbia Basin Hatchery, in Moses Lake, Washington State.

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