

**11. WHITE STURGEON – BRIEFING:**

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## **“GREEN SHEET”**

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**Meeting dates:** November 6-7, 2009 Meeting (briefing)

**Agenda item: #11** White Sturgeon Management – Briefing

**Staff Contact:** Pat Frazier, Region 5 Fish Program Manager (Fish Program)

**Presenter(s):** Pat Frazier, Region 5 Fish Program Manager (Fish Program)  
John Whalen, Region 1 Fish Program Manager (Fish Program)  
Ron Warren, Region 6 Fish Program Manager (Fish Program)

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White sturgeon are long lived species with fish maturing at about 20-25 years old. Sturgeon are broadcast spawners that require cool water (48F-62F) and rocky substrate with fast moving waters for successful spawning. Females typically produce 100,000-300,000 eggs and spawn every 3-4 years.

Historically, white sturgeon were abundant throughout the Columbia Basin with fish ranging into Canada in the Columbia River and into Idaho in the Snake River. Limited use of tributaries occurs. White sturgeon were also known to freely migrate between ocean and freshwater habitats, including seasonal migrations into coastal bays and estuaries in Washington and Oregon.

The once abundant population was reduced to low levels by the end of the 18<sup>th</sup> century through excessive harvest. Fisheries conducted during the late 1800's focused on brood stock size fish averaging 7 feet and 150 pounds. The population remained depressed for half a century and only began to rebound with the adoption of a 6-foot maximum size limit for all fisheries in 1950. This regulation was the first fishery management action taken on the Columbia River to protect white sturgeon and was very effective. By the 1970's the white sturgeon population in the lower Columbia River had rebounded to a level where it was considered healthy.

Since the 1970's a variety of fishery management actions have been adopted to provide protection to Columbia River white sturgeon populations. Actions implemented include: area closures; season reductions or elimination; changes in retention size limits; harvest quotas and gear restrictions. The primary purpose of these regulations was to allow enough juvenile fish to mature and reach spawning size, thereby maintaining adequate brood stock numbers to maintain sustainable populations for future generations.

Populations in the middle and upper Columbia River were negatively impacted by other human actions that markedly changed the productivity of these populations. The completion of 11 dams in the mainstem Columbia River and 4 dams in the lower Snake River had the largest effect. These dams fragmented what was once a large single population into many small isolated populations. The dams also significantly reduced the spawning habitat in most of the Columbia River by reducing water velocities and denying the fish access to the lower Columbia River and the ocean.

The population residing below Bonneville Dam remains the healthiest of all the populations in the Columbia River Basin. The lower river population continues to have access to good spawning conditions below Bonneville Dam and good rearing conditions in the lower Columbia River, estuarine and ocean environments. The lower Columbia River white sturgeon population is one of three populations with access to the Pacific Ocean. Other populations occur in the Fraser River in Canada and the Sacramento River in California. Fish from these three river systems range up and down the coast from Monterey, California in the southern end northward to the Aleutian Chain in Alaska.

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Management of white sturgeon populations throughout the Columbia and Snake river basins is driven by population status within each area. The Columbia basin is effectively segregated into three distinct regions for fishery management purposes: 1) the Snake River and Columbia River above McNary Dam, 2) the Columbia River between McNary and Bonneville Dams and 3) the Columbia River below Bonneville Dam. In general abundance and population status declines as we progress upstream.

### **Upper Columbia (above McNary Dam)**

Status of Upper Columbia and Snake river populations are generally depressed due primarily to population fragmentation and habitat degradation resulting from completion of 15 dams in the mainstem Columbia and Snake rivers. Completion of dams also drastically altered flow and temperature regimes while reducing nutrient levels. These changes in habitat have resulted in reduced spawning success, decreased first-year survival rates and increased predation rates; which ultimately have reduced productivity and abundance levels for white sturgeon in the upper Columbia River. These reduced productivity and abundance levels have resulted in populations that are either not being self-sustaining, as is the case of populations upstream of Priest Rapids Dam, or in population that are experiencing poor productivity, as is the case of populations in McNary Pool and the lower Snake River.

Management of white sturgeon in the upper Columbia River is confounded by the variety of entities involved, including state agencies, federal agencies, tribes, public utility districts and other nations (Canada and their First Nation Tribes). Additionally, there are a variety of planning processes under way that do not always provide a consistent vision for management goals and actions. Population status above Grand Coulee Dam in Washington is monitored through a stock assessment program funded by Bonneville Power Administration (BPA), which provides information on adult and juvenile fish abundance, spawning periodicity, early life stage survival and natural recruitment. Monitoring work is conducted through collaborative partnership between WDFW, the Spokane Tribe of Indians, and the Colville Confederated Tribes.

Fishing opportunities are limited to sport fisheries only with seasons ranging from areas closed completely (upstream of Chief Joseph Dam), areas with only catch and release allowed (between Priest Rapids to Chief Joseph dams), areas with year round retention allowed (McNary and the lower Snake River). Retention slot limits and catch and release regulations are implemented to protect these depressed populations. The primary management goal for upper Columbia River white sturgeon is to rebuild populations to healthy levels.

In addition to fishery restrictions, restoration efforts for most depressed populations include current and planned implementation of conservation hatchery supplementation. Hatchery reared juvenile white sturgeon, obtained from wild broodstock, have been released into the Canadian portion of the transboundary reach of the upper Columbia River since 2002 and into the Roosevelt Reach in Washington since 2004. In the reach from Priest Rapids Dam upstream to Chief Joseph Dam, the three mid-Columbia PUDs, in meeting FERC relicensing obligations, are funding development white sturgeon hatchery supplementation programs.

### **Middle Columbia (Bonneville Dam to McNary Dam)**

As with the upper Columbia, populations in the middle Columbia River are also limited by hydroelectric dams that have severely fragmented free-flowing river habitats occupied by white sturgeon resulting in a series of three relatively isolated populations. Impoundments created by hydroelectric dams have reduced water velocities necessary for successful spawning; therefore, populations suffer frequent year-class failures due to poor survival/recruitment during the first year.

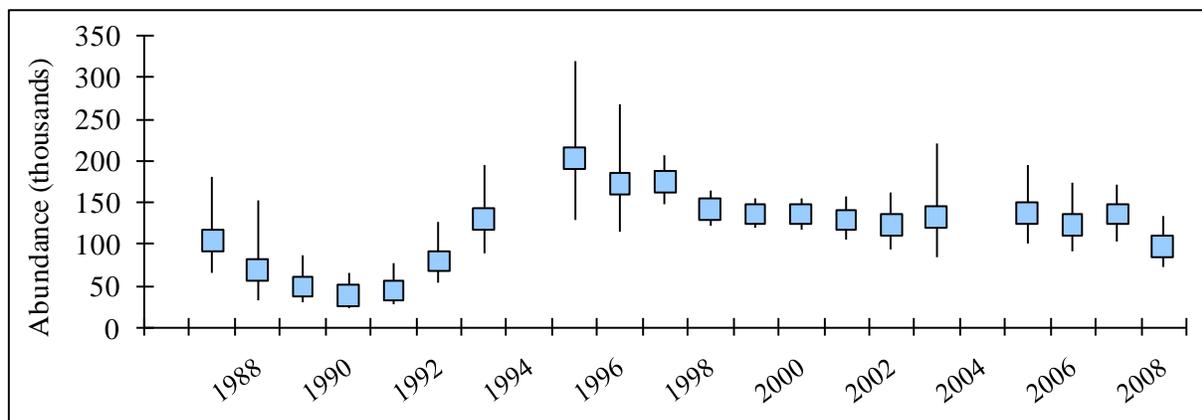
Population status is monitored through a stock assessment program funded by Bonneville Power Administration (BPA), which allows for total abundance to be estimated every three years. Based on data collected through the project, we have documented that populations in the middle Columbia River are self-sustaining at depressed levels. Legal size populations are small while sublegal abundance is substantial for two of the three populations in the middle Columbia River. Numbers of adult fish in each population are relatively small (less than 1,000 fish in each pool); however, substantial numbers of juvenile fish can be produced under favorable spawning conditions. For instance, researchers attribute the current large numbers of juvenile fish in The Dalles and Bonneville pools to primarily two year classes produced during the high spring/summer flows of 1996 and 1997.

Fishery management in the middle Columbia River is included in the court-ordered *U.S. v. Oregon Agreement*. Fishery management is conducted by a state/Tribal Sturgeon Management Task Force (SMTF) that was formed in 1987. A primary role of the SMTF is to establish annual harvest guidelines for each population. All three populations are stable and support both Treaty commercial/subsistence fisheries and non-Treaty sport harvest. The goal of fishery management in the middle Columbia River is to ensure that adequate numbers of juvenile fish recruit to maturity to maintain or increase population abundance levels. Increasing abundance levels may require a white sturgeon supplementation program. To that end, the three Treaty Tribes are working with BPA to fund a project to evaluate the need for, and possibly implement, a supplementation program for middle Columbia River populations.

### **Lower Columbia River (below Bonneville Dam)**

The lower Columbia white sturgeon population is considered to be healthy. Spawning continues to support consistent levels of production annually. Juvenile rearing habitat in the lower Columbia River remains good and access to ocean and coastal estuarine environments provides a large productive rearing habitat for white sturgeon greater than 30 inches in length.

Abundance of juvenile sturgeon (42"-60") has been estimated annually since 1987 and the trend has been generally stable since 1995. There has been a slight downward trend in abundance estimates since 2005. Indicators of the number of fish smaller than 42 inches are also showing a declining trend.



The lower Columbia white sturgeon population is healthy and therefore has the capacity to support a variety of fishing opportunities. Sport fisheries occur throughout the lower Columbia River during different times of the year. Sport fisheries harvesting Columbia River white sturgeon also occur in Oregon and Washington coastal estuaries, including Grays Harbor and Willapa Bay. The lower Columbia white sturgeon population also supports commercial fisheries in the lower Columbia River and Willapa Bay. Additionally, a tribal fishery occurs out of Grays Harbor that harvests primarily Columbia River white sturgeon.

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Fishery management is the joint responsibility of Washington Department of Fish and Wildlife (WDFW) and Oregon Department of Fish and Wildlife (ODFW). Since 1997, fishery management has been guided by a series of Joint State Accords, which set forth general management policies. In addition, the Accords also set harvest limits, address allocation between sport and commercial fisheries, establish sport and commercial fishing regulations and establish fishery and population monitoring measures for the lower Columbia River. The Accord also sets general harvest guidelines for ocean and coastal estuarine fisheries harvesting white sturgeon from the lower Columbia River. The fishery management goals for the lower Columbia River population are to maintain adequate recruitment of mature fish to maintain and increase brood stock and to support sustainable sport and commercial fisheries.

The current Accord is due for termination at the end of 2009. A new Accord is necessary for 2010 and beyond. The Washington and Oregon Departments of Fish and Wildlife have developed a schedule to ensure that a new Accord will be completed prior to significant fisheries occurring in 2010. During October through December the Joint Staff of WDFW and ODFW will work with constituents to provide input regarding the Accord. In addition to holding public meetings to receive input on white sturgeon fishery management in the lower Columbia River, the Joint Staff will also work with Columbia River sport and commercial advisory groups to gain input on fishery management policies and fishery regulations.

The Washington Fish and Wildlife Commission has guided the Department in development of the past management agreements (Accords) with Oregon through Commission POL-C3001 on Lower Columbia River Sturgeon Management. The current policy is due to expire in December 2009. WDFW staff will be presenting this policy, along with the new Accord that is developed with Oregon, to the Washington Fish and Wildlife Commission for adoption in January and February 2010. The proposed Washington Fish and Wildlife Commission schedule concerning POL-C3001 includes a briefing in January, including public input, followed by policy adoption in February.

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**Policy issue(s) you are bringing to the Commission for consideration:**

N/A

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**Public involvement process used and what you learned:**

- Development of past Joint State Accords on Columbia River White Sturgeon Management have a good track record of high levels of public involvement. Several opportunities will be provided for public involvement, including testifying at Washington Fish and Wildlife Commission meetings, testifying at Columbia River Compact hearings and attending public meetings. Additionally, staff will work closely with the Columbia River sport and commercial advisory groups in developing the Joint State Accord. Notification of public meetings will occur through standard media channels.
- Public will be provided with information regarding stock status, possible changes in fish available for harvest and possible impact to existing fisheries. The key area that WDFW is looking to receive input from the public is how the fisheries will be structured for the upcoming year. WDFW will also seek to gain input regarding the number of fish available for harvest and other tenants of the Joint State Accord.

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**Action requested:**

None. Briefing Only.

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**Draft motion language:**

N/A

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**Justification for Commission action:**

N/A

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COMMISSIONERS: Please complete this form before making a motion to establish a Commission Request to the Department.

#1

After motion is adopted, give completed copy to Susan.

### COMMISSION REQUEST TO DEPARTMENT

Title of Request: Briefing on White Sturgeon

population status + allocation process

Commissioner: Sennings

Priority Level (put one check in each row):

Importance: [ ] High [ ] Medium [ ] Low

Urgency: [ ] High [ ] Medium [ ] Low

Date Requested: 9/12/09 Date Assigned: \_\_\_\_\_  
[Dep. Director use]

Assigned To (Program/staff person): \_\_\_\_\_  
[Dep. Director use]

Requested Due Date: \_\_\_\_\_

Knowledge or Action Being Requested (narrative). Describe what you want to know. Be specific.

life history -

population status + allocation process overview on white Sturgeon in the Columbia River

Output Requested (e.g., telephone call, memo, material from files, new report, presentation, other):

presentation