

TO: Columbia Basin Fish & Wildlife Authority, Scientist panel (ISRP)  
FROM: West Multnomah Soil & Water Conservation District & Oregon Department of Fish & Wildlife

**SUBJECT: Project 31015, Sturgeon Lake Restoration**

**Opening ISRP comment.** The proposal does not state objectives, tasks, and methods.

Response. We agree that paragraph f. on page 5 of the proposal did not restate physical actions mentioned in the preceding paragraphs and contains no clear statement of biological objectives. From page 2 of the proposal: “ This restoration project requires the removal of a large sand shoal that is migrating into the channel. It will also require the re-analysis and construction of a 200-ft long rock jetty, designed for phase three of this project by the Corps of Engineers to keep sediment from building up again. It is to be constructed in the Columbia River just downstream of the Dairy Creek channel. Other work tasks include: reconstructing log debris deflection boom and attaching them to existing pilings at the channel entrance, repairing or replacing culverts on Reeder Rd damaged by the 1996 flood and removing logs and fine sediments that have accumulated in 900 feet of channel between Reeder Rd. and the sand shoal at the mouth”

We would like to add to statements made on page 3 and describe them in terms of objectives. Page 3 noted “The Sturgeon Lake basin appears to be critically positioned as an off-channel system that is three times larger (added, than Smith & Bybee Lakes.) The completion of this proposed last phase of this project appears to be more important to salmonid juveniles than originally suspected. Extensive levee construction on near-shore islands, lake systems and wetlands in the Lower Columbia beginning at Puget Island (Mile 40), appears to be one of the factors contributing to the decline of salmonid species that once used such ecosystems for feeding, off-channel protection, and ultimately their preparation for life in brackish and ocean waters”.

**Overall biological objective. To increase the populations of salmonids that use backwaters areas for feeding and refugia.** Sturgeon Lake appears to be critically located to accomplish this objective. Based upon the Analog study done by Fishman in 1981, salmonid migration into Smith & Bybee Lakes, areas influenced by high flow and tides receive very high temporal use by salmonids, even though the ecosystem environment is far less than ideal. Further, the 2001 Ducks Unlimited Study on “Juvenile Salmonid Use of Floodplain Wetland .....”, there are strong data presented on the value of similar, nearby areas for feeding, growth, and refugia. A pre-construction study done by Elliott & Ward (ODFW) 1986 prior to the opening of the Dairy Creek channel to the lake, showed salmonid juvenile use in the lake, mostly concentrated at the lower end of the Gilbert River, in the lake’s outlet river. The subsequent monitoring study done by Nigro & Ward (ODFW) 1992 suggests significant redistribution of salmonids throughout the lake, including the Dairy Creek entrance channel. Sturgeon Lake ecosystem is far more ideal and positioned to benefit salmonids than Smith and Bybee Lakes. Completion of the proposed project is expected to allow vastly improve access by salmonids to the

food resources in the lake system by allowing fish to enter the upper end of the lake. Fish may enter the system not only from Multnomah Channel but also the Columbia River.

**Question 2.** What species of fish use the lake?

Response. The full range of fish species found throughout the Lower Basin are also present in Sturgeon Lake. This includes: Chinook and coho salmon white and black crappie, brown bullhead, largemouth bass, yellow perch, northern squawfish. Other fish known to be in the lake, but are not predators, include carp and white sturgeon.

**Question 3.** What are the expected biological benefits from opening the habitat. Please refer to Overall Biological objective, above.

**Question 4 & 5.** What is the evidence that opening Dairy Creek will be sufficient to flush accumulated sediments? How much flushing of sediments can be expected and over what time frame will this occur?

Response. Photographic evidence did reveal channels forming as a result of the opening of Dairy Creek. These photos may have to be reassembled. The objective of the initial phase work was not to determine volumes of sediment removed, but rather to halt the loss of herbaceous wetlands, control the migration of willows into the lake, improve lake water quality and flushing, and reduce the quantity of sediments that are re-suspended by wind action. The habitat is generally good, but underutilized by salmonids. The proposed work is expected to halt the gradual degradation of fisheries and waterfowl habitat. Actions proposed should improve water quality, cause the reformation and deepening (of existing channels), and expand pathways to the existing food sources in the lake.

**Question 6.** How much improvement in salmonid rearing habitat can be expected from opening Dairy Creek?

Response. We expect that the entire 3200 acres of the lake will respond due to water quality improvement and channel formations. Willow encroachment should be abated, salmonids juveniles should obtain access to the substantially more acres in the lake, and their residence times should increase.

**Questions 7 & 8.** Is this or could this be quality juvenile habitat? How susceptible are the fish to waterfowl predation?

Response. The question of quality juvenile habitat is addressed above. The risk of predation is very similar to other natural habitat along the stretch of river from Sauvie Island to the mouth. Such habitats include a similar range of channels used by predator fish and birds such as kingfishers and mergansers and flats used by herons. The strategy used by salmonids juveniles, which is feeding by dispersion, will be enhanced; however, the predation risks found in channels such as the Gilbert River or at Dairy Creek entrance are seen as comparable to the natural habitats.

The possibility of disproportionate loss remains a topic of interest, though we suspect no serious risks, even remotely comparable to Caspian tern predation or concerns related to concentration of fish immediately below dams. Existing studies and monitoring for predatory fish mentioned herein, do not suggest problems. Though bass and squawfish are known predate on juveniles, stomach analysis of these fish found in the Gilbert River contained no salmonid juveniles. We plan to follow continue existing monitoring and the established collection sites. Continued monitoring will incorporate statistical analysis and/or evaluation protocol recommended in the Oregon Plan for: Stream biotic conditions, juvenile abundance, and stream channel and habitat assessment. Monitoring in the lake and the Gilbert River will be as established by Ward, et al (ODFW) 1986 and 1989. Monitoring for salmonid abundance and growth will be addressed by expanding the existing nearby studies at Ruby Lake/Burlington Bottoms.