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## Kootenai Tribe of Idaho

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July 24, 2007

2007007018

Dear Patty:

Thank you for the opportunity to provide comments on the new and innovative projects that were solicited by the Northwest Power and Conservation Council (NWPCC). We urge the NWPCC to fund project 200753500, entitled "Physical and Biological Testing of a Flow Velocity Enhancement System (FVES)". This proposal was ranked B1 "fundable" by the ISRP, which places the project in the second tier. Unless project budgets in the A1 and A2 tiers are reduced, or funding is increased for innovative projects, the existing \$2 million budget will not accommodate all of the A-tier projects, nor extend to the projects in the B category. This outcome would severely limit the scope of funded innovative projects and fail to access other innovative ideas that have the potential to solve many issues facing fisheries resources in the Pacific Northwest.

If experiments reveal that FVES can improve the efficiency of downstream migrating smolts through Columbia River dams and improve their survival, summertime flow augmentation from headwater reservoirs, including Libby Dam on the Kootenai River, may not be necessary. Summertime flow augmentation for anadromous fish restoration causes unnaturally high and fluctuating flows in the Kootenai River, which impacts resident fish species. For example, the endangered Kootenai white sturgeon adapted to the natural annual flow pattern that peaked in early June, then declined toward low flow conditions during July through the following April. Adult sturgeon spawned during the spring runoff period. Eggs incubated and hatched as the hydrograph declined. Larval sturgeon, that initially have poor swimming ability, reared under low flow conditions and reduced water velocities as they gradually dispersed downstream. Summertime flow augmentation causes high flows and water velocities during this historic low flow period. Further, FVES could reduce costs and gas supersaturation impacts associated with spill at lower Columbia Dams if fish can be efficiently guided to spillway bays or fish passage facilities. Limited funding could be applied to other fish restoration actions.

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The seasonality of nutrient delivery and cycling was also changed by flow regulation. Before Libby Dam became operational, nutrients were transported mainly during spring runoff, fertilizing the river and downstream Kootenay Lake. This occurred just prior to the productive summer and fall months when stream flows reduced and water retention times in the productive lake epilimnion increased. Today, Libby Reservoir acts as a nutrient sink, trapping nutrients in the reservoir sediments. Dam operation reversed the annual hydrograph, shifting what nutrient delivery remained into the winter when flows are high for power generation and flood control. To make matters worse, summer flow augmentation flushes the river and lake surface during the most productive warm months. Successful implementation of FVES fish guidance in the lower Columbia may facilitate restoring a more natural hydrograph and flood plain function in the Kootenai River.

Experiments and empirical results of turbulent flow generated by the FVES device will also be directly applicable to flow eductor experiments called for by the endangered Kootenai white sturgeon recovery plan. The device may help recreate flow, turbulence and river substrate suitable for natural sturgeon reproduction and aid our ongoing recovery actions. We urge the NWPCC and BPA to fund this project. Please contact Sue Ireland, our Fish and Wildlife Program Director, at 208 267-3620 if you have any questions. Thank you for the opportunity to comment on the new and innovative projects.

Sincerely,

A handwritten signature in cursive script that reads "Gary Aitken Sr." The signature is written in black ink and is positioned above the typed name.

Gary Aitken, Sr., Kootenai Tribal Council Member