

Natural Solutions
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Helena, MT 59602

July 24, 2007

Patty O'Toole
Program Implementation Manager
Northwest Power and Conservation Council
851 SW 6th Avenue, Suite 100
Portland, OR 97204-1348

Dear Ms. O'Toole:

Natural Solutions appreciates this opportunity to offer this final comment regarding our proposal – 200753500 – in the Innovative Review Process. We will be brief in deference to others who are offering comments on our behalf: Tod Jones, Director of the Clatsop Economic Development Council's Fisheries Division (CEDC); Larry Peterman, Chief of Field Operations, Montana Fish, Wildlife and Parks; Gary Aitken, Sr. (Kootenai Tribe of Idaho); Bruce Farling, Executive Director, Trout Unlimited; and perhaps others.

Despite spending over \$1 billion in research and development, building prototypes and constructing new facilities and upgrades (U.S. Army Corps of Engineers, July 19, 2007), problems with fish passage, particularly juvenile passage – while greatly improved – remain an issue. The importance of flow velocity for juvenile salmonid migrations has been widely recognized in scientific research for many years. The Flow Velocity Enhancement System (FVES) defined in 200753500 mechanically produces a current, or flow field, attractive to migrating juvenile salmonids. One demonstration of such attraction occurred in a 52 foot net pen, populated with 4,000 coho salmon smolts, provided and monitored by CEDC. Test details are described in the paragraph "About Venturi Eductors" in part B. Technical and/or scientific background" of the proposal. The proposed test would build considerably upon current information and results.

The test proposed by Natural Solutions in 200753500 has been deemed worthy of funding by the ISRP on two occasions prior to this Innovative Review process.

With regard to the ISRP's comment: "There is a need to get away from trial-and-error that characterizes many of these studies." We suggest that ANY innovative process or mechanism begins with a theory and proceeds through a process of trial and error and the FVES is no exception. Fortunately, the trial and error process has been relatively short here. Natural Solutions has been able to capitalize on the generous support and scientific guidance and advice of notables such as Dr. Charles Coutant (former member of the ISRP); Dennis Rondorf, Noah Adams, Russell Perry and others (U.S.G.S. Columbia River Research Lab); Mark LaRiviere (senior fisheries biologist for Tacoma Power); John Serl (project leader, Cowlitz Falls Anadromous Fish Reintroduction); Brian Marotz (fisheries mitigation manager, Montana Fish, Wildlife and Parks); and others. We suggest that the FVES and the proposed test have reach a stage of development that justifies the expenditure of the more robust test.

With regards to the ISRP's comment the need for "provisions for testing of potential injury or mortality of juvenile salmonids entrained into or exposed to high velocities produced near the nozzle" – Tod Jones, who directed and test under the auspices of the CEDC (Astoria, OR) will provide his report as part of this comment process.

We commend the Council and BPA for recognizing the value and importance of funding innovative mechanisms and processes. All successful approaches to solving problems associated with the Columbia Basin's anadromous fish populations began as an innovative proposal, championed and funded through trial and error, feasibility studies, and field testing. We believe the FVES offers enough proof of success to warrant encouragement for funding from sources representing science (Montana's Fish, Wildlife and Parks), sovereign Indian nation, and an important conservation organization (Trout Unlimited). We appreciate your consideration.

Sincerely,

Gordon Burns and Jean Johnson
Natural Solutions

Reference

U.S. Army Corps of Engineers, Bonneville Power Administration. Structural and Operational Changes at FCRPS Dams to Improve Fish Survival. June 19, 2007. Retrieved July 22, 2007, from <http://www.salmonrecovery.gov/>