Northwest Power and Conservation Council

May 3, 2007

DISCUSSION MEMORANDUM

TO: Council members

FROM: Peter Paquet
Acting Director, Fish and Wildlife Division

SUBJECT: Briefing on All "H" Analyzer (AHA)

PURPOSE:

This agenda item will discuss the status of analytical tools being used in the region to support salmon recovery planning and hatchery reform. The discussion will focus on two tools in particular: the **All-H Analyzer (AHA)** and the **All-Population Evaluator (APE)**. Because of their widespread use throughout the Columbia Basin and Puget Sound, it is likely that these tools will play a role in future processes including the Council's upcoming program amendment process. These tools can support the development of biological objectives and the evaluation of management strategies.

DISCUSSION

AHA and APE have been developed with support from the Council as well as NOAA Fisheries, U.S. Fish and Wildlife Service and the Washington Department of Fish and Wildlife. The tools have been constructed by scientists at Jones & Stokes Associates working closely with state, federal and tribal fishery managers. The tools are being used in two major regional processes in the Columbia Basin: the congressionally mandated Hatchery Reform Project and the review of Mitchell Act Hatcheries under NEPA.

The presentation will discuss the nature and status of the tools. Briefly, however, AHA is a simple tool for analyzing single populations (e.g. Big Creek coho) in regard to the 4-H's: Harvest, Hatcheries, Hydroelectric operations and Habitat. It is a way of balancing the 4-H equation to achieve management goals or biological objectives. AHA uses input from other models to analyze habitat, hydro and harvest but has additional detail regarding hatchery operations. AHA does not analyze hydroelectric operations, for example, but instead uses an estimate of juvenile and adult passage survival that might come from a more detailed analysis using a dedicated hydro model. There are presently AHA analyses for over 310 anadromous salmonid populations in the Columbia Basin.

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APE is a tool for “rolling-up” the AHA results to evaluate biological performance at the scale of the ecological province (e.g. Columbia Plateau) or ESU (e.g. lower Columbia River Chinook). It integrates a set of AHA files to estimate abundance, hatchery performance, harvest and so on at larger scales. By using APE and AHA in conjunction, it is possible to “roll-up” to larger scales (provinces) or “drill down” to smaller scales (individual populations).

Both AHA and APE are under active construction and refinement. They are being widely used and developed in the hatchery reform project and NEPA analysis that will result in baseline analysis of all anadromous salmon populations in the Columbia Basin. It is likely that these will serve as a basis for development of biological objectives and the Council’s program amendment process