Project Number: 23051

Project Title: Assessment and Implementation of Technologies to Monitor Adult Spring and Summer Chinook Salmon Abundance in Snake River Basin Tributary Streams

Sponsor: Nez Perce Tribe

ISRP Comment: This proposal for an assessment does not address imminent risks to ESA stocks by offering direct on-the-ground benefits with one-time funding. The spawner surveys should be conducted.

Sponsor Response: The Nez Perce Tribe believes that this High Priority project proposal is directly related to the NMFS (2000) Biological Opinion on the operation of the federal Columbia River power system. The Biological Opinion (NMFS 2000) recommended that accurate assessment of spawner escapement of listed ESU's are required for determining the characteristics, viability, recovery status, and delisting of ESU's under the Endangered Species Act. NMFS also recommended characterizing populations by abundance/productivity, diversity (viability), spatial structure and habitat capacity most of which rely on some quantitative measure of adult abundance. Adult abundance information is a necessary part of the NMFS Biological Opinion as stated in Section 9.6.5 Research, Monitoring and Evaluation Plan, and subsection 9.6.5.2 Population Status and Environmental Status Monitoring. Measurement of adult abundance is also a necessary component of proposed short-term measures of stock performance that focuses on life history stages. The recovery metric for listed ESU's is the likelihood that the 8 year geometric mean abundance of natural spawners in a population will be equal to or greater than an identified recovery abundance level.

Current chinook salmon redd count information represent an index of relative abundance only, and provides no direct quantitative measure of spawner abundance. Expansions of redd counts to spawner numbers are influenced by measurement error and uncertainty of assumptions regarding estimates of fish per redd, relative numbers in surveyed and unsurveyed areas, prespawning mortality rates, age composition and hatchery fish contribution (Beamesderfer et al. 1999, Faurot and Kucera 2000). Redd count methods will not be able to determine when or if an ESU reaches a desired recovery threshold. Collection of adult spawner abundance information allows salmon managers to know, with certainty, if recovery thresholds are being met.

This proposed project is a critical step towards initiating accurate and precise quantification of adult spawner abundances as required under the NMFS (2000) Biological Opinion. Salmon populations and investment of Fish and Wildlife Program funds in the region are placed at risk by an inability to quantify adult abundance to evaluate ESA recovery alternatives and program effectiveness. Delayed implementation of this project will further inhibit managers and policy makers ability to directly measure the benefits of recovery actions identified in the NMFS (2000) Biological Opinion.

Literature Cited:

Beamesderfer, R.C.P., H.A. Schaller, M.P. Zimmerman, C.P. Petrosky, O.P. Langness. and L. BaVoy. 1998. Spawner-recruit data for spring and summer chinook populations in Idaho, Oregon, and Washington. Section 2, Chapter 1 In: D.R. Marmorek and E.N. Peters, eds. Plan for Analyzing and Testing Hypotheses (PATH): Retrospective and prospective analyses of spring/summer Chinook reviewed in FY 1997. Compiled and edited by ESSA Technologies LTD., Vancouver, B.C.

Faurot, D. and P.A. Kcuera. 2000. Escapement monitoring of adult chinook salmon in the Secesh River and Lake Creek, Idaho, 1998. Annual report prepared for the Bonneville Power Administration. Nez Perce Tribe Department of Fisherries Resources Management.

National Marine Fisheries Service. 2000. Biological Opinion. Reinitiation of consultation on operation of the Federal Columbia River power system, including the juvenile fish transportation program, and 19 Bureau of Reclamation projects in the Columbia Basin. National Marine Fisheries Service, Seattle, Washington. December.

NMFS-NOAA July 17, 2000. Draft Cumulative Risk Initiative