

## **Winter Chinook Carcass Survey**

USFWS - NCVFWO

### **Scope**

This expanded project is designed to obtain information on the endangered winter chinook salmon. Primary objectives of this project are to: 1) estimate escapement of both hatchery-produced and wild-origin winter chinook salmon; 2) collect baseline information on the spawning population of winter chinook salmon (i.e. age, sex ratio, spawning distribution [temporal]); 3) evaluate the effectiveness of the winter chinook salmon propagation program; and, 4) collect tissue for future genetic analysis. Collected information will serve to assess AFRP restoration goals, determine the effectiveness of the hatchery supplementation program and assist in the maintaining genetic diversity in hatchery and natural stocks.

### **Justification and benefits**

The need for winter chinook salmon spawning ground surveys are three fold; 1) to estimate escapement of winter chinook salmon; 2) to evaluate the potential to modify hatchery procedures to benefit native stocks of salmonids; 3) to collect tissue samples for genetic analysis to characterize winter-run chinook salmon population for run discrimination work and to maintain genetic diversity in hatchery and natural stocks.

### **Work to be performed and deliverables**

The Service's Northern Central Valley Fish and Wildlife Office (NCVFWO) and California Department of Fish and Game's (CDFG) Stream Flow and Habitat Evaluation Program will continue to jointly conduct a spawning ground carcass survey to estimate escapement of both hatchery-and naturally-produced winter chinook salmon. Other objectives will be to collect baseline information on the spawning population of winter chinook salmon (i.e. age, sex ratio, spawning distribution [temporal]), to evaluate the effectiveness of the winter chinook salmon propagation program, and, to collect tissue for future genetic analysis.

Two annual reports will be generated describing field activities. The Service will generate a report evaluating the winter chinook salmon hatchery propagation program which will include tracking information of genetic samples collected. CDFG will produce a report that estimates escapement, examines the feasibility of using a mark-and-recapture techniques, and describes baseline information on spawning distribution (temporal), environmental conditions at the time of spawning, and size, sex, and success of the spawning population.

**Budget:** \$21,000