



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

May 5, 2010

Anthony O. Wright, Colonel  
U. S. Army Corps of Engineers  
P.O. Box 3755  
Seattle, Washington 98124-3755

Attention: Scott Pozarycki  
Environmental Resources Section

Subject: Endangered Species Act Section 7 Informal Consultation for the Howard Hansen Dam Right Abutment Investigation, Reservoir Refill, Reservoir Drawdown, and Interim Repair. NMFS Consultation No. 2010/01889.

Dear Colonel Wright:

This correspondence is in response to your request for consultation under the Endangered Species Act (ESA).

### **Endangered Species Act**

NOAA's National Marine Fisheries Service (NMFS) reviewed your March 11, 2010 request for consultation for Puget Sound (PS) Chinook salmon and PS steelhead, which are listed as threatened species under the Endangered Species Act (ESA) and for PS Chinook critical habitat. This consultation with NMFS is conducted under Section 7(a)(2) of the ESA and its implementing regulations, (*50 CFR Part 402*).

### **Background**

According to the supplemental May 2009 Biological Assessment, the United States Army Corps of Engineers (Corps) is conducting testing and repair activities related to damage that occurred to the right abutment of Howard Hanson Dam (HHD) during the rain storm in January 2009. Water was stored to elevation 1,189 feet to prevent downstream flooding. This was a record flood storage elevation for the dam. While dam failure is not considered an imminent threat, depressions on the upstream face of the right abutment and turbid water in one of the drains in the right abutment tunnel create concerns that conditions may develop that could ultimately lead to dam failure.

### **Proposed Action**

The proposed action is identified as the new alternative 6: Refill to 1,167 feet with potential for water storage above 1,167 feet for 7 days. The interim repair work includes 1) extending the 2009 grout curtain by 650 feet; 2) deepening 375 feet of the 2009 grout curtain; 3) constructing a concrete drill pad to support the 2010 grout extension; 4) installing a sheet pile wall at the south end of the 2009 grout curtain; and 5) replacing 10 existing vertical drains.

### **Effects of the Action**

The reservoir refill should be unaffected by the proposed plan until elevation 1,167 feet is reached at which time the Corps will try to store additional water over a one week period. Weather conditions will determine if and how high the reservoir is raised above 1,167 feet. Based on probability, it is unlikely that 1,177 feet will be achieved during the five-year period of the proposed plan. The more likely outcome is several more feet of water storage above 1,167 feet during two out of the five years. A second attempt at increased storage above 1,167 feet would only occur if the first attempt achieves no more than a moderate reservoir elevation increase (2-3 feet). The second attempt to raise the reservoir above 1,167 feet will be subservient to the needs of downstream resources.

The practical effect of the increased storage will be to shift the hydrograph peak in time by three to four days. If this event occurs, it will be from mid-May to late June if it occurs at all. Peak inflows have been as high as 6,800 cfs, but are generally 2,800 cfs or less. If a high inflow occurs, only a portion of the peak flow could be stored, so above average discharges from HHD would occur.

If higher discharges occur, it will be during the latter part of the juvenile Chinook salmon outmigration. The result, Chinook smolts will experience either normal or higher than normal late spring outmigration flows. No adverse effect is anticipated.

Juvenile steelhead may still be outmigrating during the period when increased reservoir discharges may occur. Newly spawned steelhead eggs will be incubating during this time. No adverse effect is anticipated for outmigrating steelhead smolts. Incubating steelhead eggs could be scoured from redds if stream discharge exceeds 2,800 cfs, but such flows would only occur from natural processes, not reservoir operations.

### **Species Determination**

*Puget Sound Chinook salmon*

*Puget Sound steelhead*

In the Green River Basin, Chinook salmon fry emerge from the stream gravel from January to early spring. Juvenile Chinook migrate beginning mid-January until early July. Returning adult Chinook salmon migrate into the river in August and September, spawning in September and October. Steelhead spawn from early to late spring, and most juveniles reside in the river about two years. Juvenile steelhead emigrate to salt water in March through June each year.

The proposed action has the potential to modify reservoir discharge by changing the schedule of operations of refill and drawdown. However, the amount and timing of the changed flows do not rise to the level of adverse effects on Puget Sound Chinook salmon or Puget Sound steelhead. Therefore, NMFS concurs with the effects determination of “may affect, but not likely to adversely affect,” for PS Chinook and steelhead.

### **Critical Habitat Determination**

#### *Puget Sound Chinook critical habitat*

NMFS designated critical habitat for the PS Chinook salmon Evolutionarily Significant Unit (ESU) on September 2, 2005 (70 FR 52630). The three primary constituent elements (PCEs) for the PS Chinook salmon ESU critical habitat in this action area are freshwater migration, spawning, and juvenile rearing habitats. NMFS analyzed the potential effects of the proposed action on these PCEs and determined that the effects will be insignificant because:

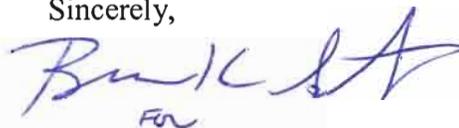
1. The actions will not result in a barrier to migration. Effects on migratory behavior are expected to be insignificant.
2. Potential effects on spawning habitats, while measurable, are likely insignificant in light of the normal snowpack and expected reservoir operations that will enable flows that support typical spawning conditions.

Therefore, NMFS concurs with your “may affect, not likely to adversely affect” determination for critical habitat for PS Chinook salmon.

This concluded informal consultation pursuant to the regulations implementing the ESA, 50 CFR 402.10. The Corps should reanalyze this project if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this consultation. The proposed action should also be reanalyzed if it is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation, and or if a new species is listed or critical habitat for another species is designated that may be affected by this action.

The efforts by the Corps to design this action to minimize effects on listed species and habitat are appreciated. If you have any questions, please contact Steve Fransen at 360-753-6038 or [steven.m.fransen@noaa.gov](mailto:steven.m.fransen@noaa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Donna Darm', with a small 'for' written below it.

Donna Darm  
Acting Regional Administrator