



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
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July 10, 2015

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RE: Emergency trapping and transport of Snake River Sockeye Salmon at Lower Granite

Dear Mr Hassmer:

National Marine Fisheries Service (NMFS) Interior Columbia Basin Office's Columbia Hydropower branch has determined that take associated with your request to initiate a trap and haul operation for Snake River Sockeye as part of an emergency action due to high temperatures in the Snake River Basin is permitted in 2015 under the IDFG Section 10(a)(1)(a) permit for the Snake River Sockeye Salmon Hatchery Program and the 2014 FCRPS Supplemental Biological Opinion (2014 Opinion). The estimated numbers of listed salmonids needed to conduct this activity in 2015 are given in Table 3 below.

### **Project Justification, Description, and Methods**

The State of Idaho plans to transport Snake River Sockeye collected at Lower Granite Dam (LGD) and transport them to the Eagle Fish Hatchery for broodstock collection or release into Redfish Lake. This action is being taken as an emergency measure due to the extreme temperature conditions being experienced throughout the lower Snake River, extending upstream through the Salmon River Basin. During the first week of July temperatures in the forebay of LGD have exceeded 25<sup>0</sup> C at a 3 meter depth, temperature at the Anatone gauge located upstream of Lower Granite Reservoir have exceeded 24<sup>0</sup>C, and temperature at the Whitebird gauge on the Salmon River has exceeded 25<sup>0</sup>C. These temperatures are extremely stressful to

sockeye and are approaching lethal levels if the fish are exposed to these temperatures for an extended duration. Collection and transport of these fish from the Lower Snake River projects to Sawtooth Valley lakes or artificial propagation facilities is deemed essential to increase the survival rate of individuals from this endangered population. Collection and transport from LGD will facilitate recovery actions described in the Snake River Sockeye Salmon Recovery Plan.

The collection and transport of sockeye is consistent with provisions of NMFS's 2014 Supplemental Biological Opinion (2014 BiOp) on the Federal Columbia River Power System (FCRPS) and the Endangered Species Act (ESA) Section 10(a)(1)(A) permit to Idaho Department of Fish and Game (IDFG) for the Snake River Sockeye salmon hatchery program. The Section 10(a)(1)(A) permit specifically authorizes removal of sockeye salmon from the Lower Granite Dam trap when low-flow or temperature conditions are expected to limit adult survival to the hatchery and the spawning grounds. Allowable mortality was not to exceed 10% of the fish handled during trapping and transport. Due to the extreme temperature conditions this year, IDFG has requested additional take coverage for incidental mortality to Sockeye salmon from 10% to 20%.

NMFS' 2014 BiOp supplemented the actions of the 2008 and 2010 FCRPS BiOps. Reasonable Prudent Alternative (RPA) Action 42 of these opinions addressed the need to investigate the collection and transport of adult sockeye from LGD to Sawtooth Valley lakes or the artificial propagation facilities. NMFS included an effects analysis in section 2.5.1.5 of the 2010 BiOp for operating the LGD trap to collect sockeye for transport. This analysis recognized that some Chinook and steelhead would also be collected and would incur some mortality incidental to the process of collecting and sorting adult sockeye. IDFG has requested an additional, incidental, potential lethal take of 38 Chinook salmon and 33 steelhead as a result of this action. Due to high temperatures in the Snake and Columbia rivers, and at the site of the adult trap at Lower Granite Dam (>70°F) this July, about 2.7°F warmer than in the poor sockeye survival year of 2013 (Crozier et al. 2014), the incidental take of sockeye, Chinook, and steelhead is likely to be higher than NMFS anticipated in 2010.

The trap at LGD is normally not operated when water temperature exceeds 70°F. This criterion will be exceeded. The Corps has tried to cool the temperature of the trap by installing pumps that draw cooler water from a depth of 45 feet in the dam's forebay, but has been unable to achieve the 70°F criterion. Operation of this trap outside of the 70°F temperature criterion is consistent with RPA Action 9, Fish Emergencies, of NMFS's 2014 BiOp, which allows operation of fish facilities outside of criteria during emergency events. NMFS deems the current temperature conditions in the Salmon and lower Snake Rivers to constitute an emergency, and action is needed to reduce its impact on these returning Snake River sockeye salmon adults. The LGD trap will only be operated for a four hour period in morning hours (6:00 am to 12:00 pm) to limit the stress to collected fish. Trapping is also being considered at the Ice Harbor project. The same restriction would be applied at this location i.e. Trapping will be limited to a 4 hour period within the hours 6:00 am to 12:00 pm.

## **Operational Reporting & Notification Requirements**

The following additional measures will be taken to document the condition of all species handled during adult trapping for evaluation and preparation of an adaptive management plan for use in future years if these environmental conditions continue or worsen:

Daily Trap operation records will include:

1. Trap and fish ladder water temperatures
2. Trap operation rate
3. Number of fish trapped and handled by species, and their final disposition (transported, released, etc.)
4. Number of mortalities or injuries by species
5. Relevant observations on fish condition

A daily report will be emailed to NOAA Fisheries with a summary of these items.

Fish transportation records (for sockeye salmon only) will include:

1. Numbers of fish transported each day
2. Time fish were held before transport
3. Transport time to the Sawtooth Valley and temperature at which the fish were transported.
4. Mortalities incurred during transport
5. Survival to spawning at the hatchery of transported fish.

Within 2 months of the completion of sockeye spawning, IDFG will send a report documenting these records and presenting a summary and analysis of the procedures to NOAA Fisheries.

## **Take Estimates**

At present, IDFG Section 10(a)(1)(a) permit for the Snake River Sockeye Salmon Hatchery Program allows a 10% mortality rate and IDFG has requested a 20% rate. Neither this permit, nor the 2014 Supplemental FCRPS BiOp has a mechanism for allowing such an increase. However, we request that you assess the cause of mortality when such occurs. Mortalities resulting from infectious diseases due to the high water temperatures necessitating this action should not count against your take authorization because these individuals would have otherwise died prior to spawning in the migration corridor upstream of the FCRPS. Thus, you are still authorized a 10% incidental mortality rate through the hatchery program permit.

IDFG estimated the number of fish that will be handled during the trapping process are 1,000 listed Chinook and 3,800 steelhead passing during the proposed emergency trapping period (July 13 – July 3, the 19-day estimated period of this operation). NMFS believes these are reasonable estimates. The adult trap will be operated during a four hour period within the hours of 6:00 AM – 12:00 PM.

IDFG has estimated the adult sockeye trapping activity may result in 38 listed Chinook salmon and 33 steelhead incidental mortalities. Table 8-5 of the 2014 Supplemental FCRPS BiOp summarizes estimates of take resulting from all RM&E activities given average abundance

during the 2008-2012 migration years (including operation of the adult traps for routine purposes). NMFS finds that the incidental take requested to implement the sockeye emergency transportation should not exceed the overall take allotted in the 2014 BiOp. Additionally, given the relatively large return of Snake River spring/summer Chinook salmon in 2015, the proportional impacts will likely be smaller than estimated.

Please notify Paul Wagner (503)231-2316, [paul.wagner@noaa.gov](mailto:paul.wagner@noaa.gov) as soon as possible of any deviation from the terms and conditions in this determination.

Sincerely



Ritchie J. Graves, Chief  
Columbia Hydropower Branch  
Interior Columbia Basin Office  
NOAA Fisheries, West Coast Region

Cc: Rock Peters  
Russ Kiefer  
Darren Ogden  
Bill Hevlin  
Paul Wagner

**Literature Cited**

Crozier, L.G., B.J. Burke, B.P. Sanford, G.A. Axel, and B.L. Sanderson, 2014. Passage and survival of adult Snake River Sockeye salmon within and upstream from the Federal Columbia River Power System. Research report to Walla Walla District, U.S. Army Corps of Engineers.