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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON**

NATIONAL WILDLIFE FEDERATION, et al.,

Plaintiffs,

v.

NATIONAL MARINE FISHERIES SERVICE and
UNITED STATES ARMY CORPS OF
ENGINEERS,

Defendants,

and

NORTHWEST IRRIGATION UTILITIES,
PUBLIC POWER COUNCIL, WASHINGTON
STATE FARM BUREAU FEDERATION,
FRANKLIN COUNTY FARM BUREAU
FEDERATION, GRANT COUNTY FARM
BUREAU FEDERATION, and INLAND PORTS
AND NAVIGATION GROUP,

Intervenor-

Defendants.

Civ. No. CV 01-640-RE

**SECOND DECLARATION
OF FREDERICK E. OLNEY
(MOTION FOR INJUNCTION)**

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I, FREDERICK E. OLNEY, STATE AND DECLARE AS FOLLOWS:

1. I previously submitted a declaration in this proceeding in conjunction with the briefings of the *amici* tribes and in support of the plaintiffs' current motion for an injunction. In that declaration, I set forth my qualifications and experience as a fisheries biologist and with regard to fisheries management and the operation and management of the Federal Columbia River Hydropower System.

2. In my previous declaration, I testified as to the benefits of flow and spill for the survival of migrating juvenile fall Chinook and provided support for my conclusion that the plaintiffs' requested relief would reduce significantly the harm migrating juvenile fall Chinook would otherwise experience under the operations proposed in the 2004 BiOp. I have reviewed the pertinent declarations filed by the defendants and intervenor-defendants in opposition to the measures plaintiffs have requested, and for the reasons noted below, I continue to support the plaintiffs' requested injunctive relief as a means to reduce significantly the harm to ESA-listed salmon during the 2005 summer migration season.

3. In preparing this reply declaration, I have again reviewed NOAA's 2004 BiOp as well as other relevant materials identified in my prior declaration. I have also reviewed the following materials filed by various parties in opposition to the plaintiffs' motion for an injunction: (1) the Declaration of Paul Ocker; (2) the Declaration of Don Chapman; (3) the Declaration of Dave Ponganis; (4) the Declaration of Rock Peters; (5) the Declaration of D. Robert Lohn; and, (7) the Declaration of Cynthia Henriksen.

4. In this reply declaration, I address the following points raised by the defendants' / defendant-intervenors' declarations: (1) the benefits of increased flow to juvenile survival; (2) concerns that recommendations to increase water velocities could cause increases in water temperature; (3) the requested relief and "spread the risk"; and (4) transportation and recent smolt-to-adult survival rates.

Flow and survival

5. In his declaration, Mr. Ocker, a Corps of Engineers employee, indicates there is uncertainty with respect to the relationship between flow and survival of listed Snake River (SR) fall Chinook salmon. At paragraph 13 he concludes, "Therefore there is no universal flow survival relationship, and to the extent the declarants Pettit and Olney, suggest there is such a relationship, their suggestions are not appropriate." Ocker Dec. ¶ 13.

6. Despite the uncertainty referred to by Ocker, NOAA has established and continues to support flow objectives for summer migrants. In my first declaration for this injunction proceeding, I reviewed NOAA Fisheries' approach for establishing flow objectives for summer migrants and indicated that the agency has consistently supported summer flows and flow augmentation as a means of improving juvenile survival since first establishing the 50-55 kcfs flow objectives in the 1995 BiOp. At paragraph 15 of my first declaration, I stated, "In developing its 1995 FCRPS BiOp NMFS described the flow levels that are likely to contribute to survival and recovery of listed Snake River stocks and reviewed the scientific studies upon which that determination was based." Olney PI Dec. (First) ¶ 15. As I explained in paragraph

16 of that declaration, “NMFS has continued to support summer migration flows at Lower Granite Dam ranging from 50-55 kcfs since the 1995 BiOp.” *Id.* ¶ 16. The 50-55 kcfs flow objectives remain unchanged under the 2004 BiOp despite the scientific uncertainty referred to by Mr. Ocker. *Id.* ¶ 19. I also support those flow objectives. In paragraph 17 of my first declaration, I pointed out that acquiring additional water from the upper Snake River above the 1993 base of 427 kaf has been a requirement of previous BiOps and would increase the likelihood of meeting flow objectives. *Id.* ¶ 17.

Temperature

7. In his declaration, Mr. Ocker indicated that Connor et al. 2002 showed that survival of Snake River fall Chinook salmon to Lower Granite Dam was significantly correlated to flow, water temperature, and turbidity and that it is not possible to determine “unequivocally” which variable had the greatest influence on survival. Ocker Dec. ¶ 14. Mr. Ocker later states that “considering flow augmentation without considering the impacts of temperature is a flaw in the plaintiffs’ assertion that increasing flows is necessary for improving fall Chinook survival as indicated in Mr. Olney’s declaration.” *Id.* ¶ 16. Mr. Ocker goes on to warn that plaintiffs’ recommendations to increase water velocities could include increasing releases from Idaho Power Company’s Brownlee Reservoir during the summer and that these releases would likely increase water temperature between Hells Canyon Dam and Lower Granite Reservoir. *Id.* ¶ 17.

8. While I agree that water temperature is an important environmental variable affecting survival of Snake River fall Chinook salmon, and that it has not been possible to

determine “unequivocally” which variable has the greatest influence on survival, flow augmentation using a combination of cool water releases from Dworshak Reservoir and warmer water from Brownlee Reservoir and the upper Snake River has been for many years, and continues to be, a primary tool for improving survival of Snake River fall Chinook salmon. The timing of flow releases from these two very different sources has been managed in-season to achieve the best possible in-river passage conditions for juvenile and adult fish, including the best possible water temperatures. As I understand it, the plaintiffs injunction request would specifically seek to continue this close in-season management by requiring adherence to the measures of the RPA in the 2000 BiOp, including the requirement to manage water temperatures to achieve as nearly as possible temperatures below 68 degrees F. in the Lower Granite forebay. Warmer water from Brownlee Reservoir and the upper Snake River is often released earlier than the cooler Dworshak Reservoir water to reduce impacts of temperature later in the summer migration period. I am confident that the plaintiffs’ proposal for flow augmentation would be managed in-season like flow augmentation volumes have been managed for the last decade to achieve the best possible in-river migration conditions, taking into consideration realtime information on water temperature, flows, fish migration timing and other variables that can’t be predicted prior to the season.

9. I am not aware of any instance where flow augmentation volumes to improve salmon migration that were available in Brownlee Reservoir or the upper Snake River were rejected because of temperature concerns. In fact, the federal defendants proposed last summer to release what they characterized as an additional 100,000 acre feet of water from Brownlee

Reservoir during the summer migration to improve survival to offset reductions in survival from proposed cuts in summer spill.

Spread-the Risk

10. In his declaration, Mr. Ocker states, “Plaintiffs are advocating a spread the risk approach for Snake River fall Chinook by assuming that research results for inriver and spring migrating fish can be transferred to the transportation of summer migrating fall Chinook.” Ocker Dec. ¶ 22. This statement is not correct to the extent that it refers to testimony I provided in my first declaration in support of spreading-the-risk for Snake River fall Chinook salmon. Contrary to Mr. Ocker’s assertions, in supporting spread-the-risk for Snake River fall Chinook salmon I relied primarily on the conclusion reached by NOAA Fisheries scientists that “no empirical evidence exists to suggest that transportation either harms or helps fall Chinook salmon,” a fact noted by NOAA Fisheries with respect to its summer transportation program. Olney PI Dec. (First) ¶ 22; *see*, 2004 BiOp at 6-78. I also relied on recent in-river and reach survival estimates developed by NOAA Fisheries, not on research results for spring migrating fish. *See* Olney PI Dec. (First) ¶¶ 22- 24.

11. In paragraph 20 of his declaration, Mr. Peters, a Corps of Engineers employee, states, “The declarations from Olney and Pettit suggest moving forward with a summer spill operation in the lower Snake River during the 2005 fall Chinook outmigration without regard to a regionally agreed to comprehensive study to evaluate the effects of the action. In my opinion, this is scientifically unsound, and may put this species at higher risk than the current plan.”

Peters Dec. ¶ 20. Mr. Ponganis, also a Corps of Engineers employee, similarly states in his declaration:

A significant difference between the Corps' and other Action Agencies approach and the plaintiffs' arbitrary "just do it" tactic, is that the Corps and NOAA Fisheries plan to develop a spread the risk methodology for juvenile fall Chinook similar to the approach used to define spread the risk for spring/summer Chinook, which has taken several years of study and is continuing to be refined. The agencies will carefully evaluate survivals of both in-river and transported fish to develop adequate information to apply to decision-making.

Ponganis Dec. ¶73. Thus, these Corps of Engineers' declarants argue that it is "scientifically unsound" and "arbitrary" to implement the plaintiffs' proposal without a regionally agreed to comprehensive study to evaluate the effects of the action and without a spread-the-risk methodology based on several years of study.

12. This standard that the Corps of Engineers (*via* Peters and Ponganis) would hold the plaintiffs to has not been applied consistently to implementation of the federal agency's own past actions. For example, in 2004 the Corps and the other federal defendants proposed cutting summer spill even though they acknowledged that there was considerable uncertainty in their effects analysis. They did not recommend delaying the proposed action to "develop adequate information to apply to decision-making" or wait to reduce spill until "a regionally agreed to comprehensive study to evaluate the effects of the action" had been developed as the agency now suggests should be done prior to implementation of plaintiff's request. Similarly, significant actions actually have been implemented on an interim basis in the past, such as increased spill under the 1995 BiOp, pending collection of new monitoring and research information to help fine tune these measures. As Mr. Heinith explains in his declaration, Pit-Tag tests are already

posed that could be used to monitor the increased spill operations which would provide valuable data regarding the benefits of spill to juvenile Snake River fall Chinook. Heinith Dec. (Inj. Reply) ¶ 35.

13. The Government's policy for the past 25 years or so, since the collection facilities were first placed in operation at the Snake River dams, has been to maximize the transportation of Snake River fall Chinook under all flow conditions, not just low flow conditions. The assumption was that the risk of juvenile fish migrating in-river might exceed the risk of transportation and as a result, the "spread-the-risk" approach only applied to spring operations but not to summer operations. Snake River fall Chinook salmon were listed under the ESA and continue to be listed despite the many years the maximum transport policy has been applied. The latest information now suggests a "spread-the-risk" policy be used for fall Chinook as well.

14. Notably, one of the key uncertainties in the 2004 BiOp is the survival of transported Snake River fall Chinook. According to the 2004 BiOp, "NOAA Fisheries did not attempt to estimate the survival rate of transported fish because of great uncertainty regarding differential survival below Bonneville Dam relative to that of non-transported fish." A.R. 1 (2004 BiOp) at pp. 6-78, 6-79. Also, NOAA asserted that an estimate was unnecessary because survival for the transported portion of the ESU is identical under the UPA and reference operations.

Both the summer spill reference operation and the UPA assume no spill at the four collector projects (Lower Granite, Little Goose, Lower Monumental, and McNary). The summer spill reference operation is driven by NOAA Fisheries policy based on uncertainty of transportation benefits to Snake River fall Chinook salmon.

A.R. C.237 (ODFW Comments) at p. 12. NOAA's approach avoids the comparison of the survival of the transported and in-river migrating populations and focuses on comparing only in-river survival rates between the UPA and Reference Operation. NOAA only considered the difference in survival of in-river migrating fish when comparing the reference and UPA operations.

15. Oregon, Washington, and CRITFC all took the view that providing summer spill at the Snake River dams would represent an improvement over the no-spill maximum transport operation that is contained in both the UPA and Reference Operation. Oregon concludes that:

The benefits of summer spill for increasing survival of Snake River fall Chinook have been thoroughly documented (Oregon 2000; Oregon 2003; ODFW 2004a; JTS 2004a); therefore, the summer spill reference operation should include spill at collector projects (spring levels). This operation will improve survival of Snake River fall Chinook by increasing spillway passage and reducing the proportion of fish transported.

A.R. C.237 (ODFW Comments) at p. 12. Similarly, CRITFC commented that:

The best available smolt-to-adult return data from juvenile fall chinook PIT-tagged at Lower Granite Dam and either transported or allowed to migrate in-river indicate that the in-river ocean type migrants survive to adults at a higher level than fish that are transported (SFTFA 2004; FPC 2004). For yearling type fall chinook that overwinter reservoirs, the best available, although limited, data indicates that there is no advantage to transporting these migrants over allowing them to migrate in river (FPC 2004). These data have prompted NOAA Fisheries' scientists to recommend a "spread the risk" operation with roughly half of the migrants transported and half allowed in-river migration (Williams et al. 2004).

A.R. C.231 (CRITFC Comments) at Appendix A, page 11. Despite this recommendation and the available scientific data, the draft BiOp inexplicably calls for maximum transport of fall

Chinook. As Washington noted:

The proposed heavy reliance on transportation for Snake fall Chinook means that a very small proportion will migrate "naturally" through the river. This is clearly an advantage for the hydro system, but recent evidence indicates [footnotes omitted] that natural outmigrants have proportionally higher overall survivals.

A.R. C.247 (WDFW Comments) at p. 4. Also, Idaho stated

If indeed transportation is not helping fall Chinook survival compared to inriver survival, then the NOAA strategy of continuing to rely only on transportation just delays attention to other strategies that may improve survival and, in practical effect, transfers the conservation burden to other sectors.

A.R. C.234 (IDFG Comments) at p. 8. This uncertainty was known to NOAA when it adopted the 2000 BiOp. Action 46 in the 2000 BiOp RPA directs that the "Corps and BPA shall also evaluate the effects of transportation on summer-migrating subyearling SR chinook salmon."

2000 BiOp p. 9-80. The 2000 BiOp directed that the study be initiated in 2001 and include

adequate numbers of representative test fish (i.e., Lyons Ferry hatchery stock) and suitable inriver conditions for comparison with transportation. This includes spill at Snake River collector projects to reduce turbine mortality, alternative water management strategies to enhance flows and reduce water temperature, and more intensive predator management.

Id. The 2000 BiOp recognized that spill for summer migrants could not be provided until 2005 due to transmission constraints. The 2004 UPA defers the evaluation of Snake River Fall Chinook transportation until "2007/2008," to allow for installation of additional Removable Spillway Weirs at collector dams. A.R. C.289 (UPA) at p. 93.

Transportation, System Survival, and Recent Smolt-to-Adult Return Ratios (SARs)

16. In his declaration, Mr. Ocker notes that 2001 juvenile summer migrants

experienced a 280% higher system survival with transport and “this is believed to be related to the very low water conditions of that particular year having a deleterious impact to fall Chinook inriver migrants.” Ocker Dec. ¶ 24. Ocker notes that recent information has cast some doubts on the actual survival estimates, but that “the comparative nature of this analysis indicates that transport may be the optimum option during a low flow year.” *Id.* Dr. Chapman attempts to make the same argument by referencing the same information that I included in paragraphs 22 and 24 in my first declaration showing that juvenile in-river mortality in 2001 (98.5%) was higher than juvenile system mortality for all subyearling migrants (95.8%), transported as well as migrating in-river. Chapman Dec. ¶ 39. Dr. Chapman claims that, “Notwithstanding the uncertainties associated with these two figures, if taken at face value they contradict the Olney Declaration’s statement that ‘Maximizing transportation also is harming SRF Chinook,’ at least relative to in-river migration in 2001.” *Id.*

17. My conclusion in my first declaration that maximizing transportation is harmful to Snake River fall Chinook was based on the fact that all of the system mortality rates for 2000, 2001 and 2003 (which I derived by converting NOAA Fisheries survival estimates to mortality) exceeded the NOAA Fisheries standard for in-river mortality in Table 10.3 of the 2004 BiOp. I also referred to NOAA Fisheries’ own conclusions that it is uncertain whether transport provides a benefit or detriment for SR fall Chinook. The Ocker and Chapman declarations argue that because the juvenile system survival estimates in 2001 exceed the juvenile in-river survival estimates, transportation is better for survival in a low flow year. These declarants failed to mention that the average juvenile in-river survival for 2000, 2001, and 2003 (8.7%) was higher

than the average juvenile system survival (8.4%) for the same time period and, as Richard Rigby indicates in his declaration, that 2000 through 2004 are the five lowest consecutive years on record for the Snake River basin. This information would seem to counter the argument that transportation is better in all low-flow years.

18. In addition, none of the defendant declarants referred to the more recent smolt-to-adult return (SAR) rates for 2001 reported by John Williams in his April 8, 2005 memorandum to Chris Toole, which is attached as Exhibit B to NOAA Administrator Bob Lohn's declaration. Based on marked returns to date for subyearling fall Chinook salmon released upstream of Lower Granite Dam in 2001 (86.4% of the eventual total) Williams reported SARs of 0.23 for the marked group transported from Lower Granite Dam, 0.33 for the marked group transported from Little Goose Dam, and 0.45 for the marked group returned to the river. While these data are preliminary, Williams' projected SAR's show similar results when returns are complete; in both instances the fish returned to the river had higher SARs than the transported fish in 2001. As this indicates, even where juvenile estimates indicate that system survival return was greater for transported fish in 2001 (as noted by Ocker), the smolt-to-adult data do not support the defendant declarants' contention that returning fish to the river rather than transporting them in a low flow year like 2001 would be harmful to Snake River fall Chinook.

19. Mr. Lohn even concludes in his declaration, with reference to the attached William's data, that transport did not show a benefit in 2001. Lohn Dec. ¶ 18. Mr. Lohn states, "The preliminary results from the 2001 and 2002 migration continue to be inconclusive; transport showed a benefit in one year but not in the other." *Id.* The SARs from Williams' data

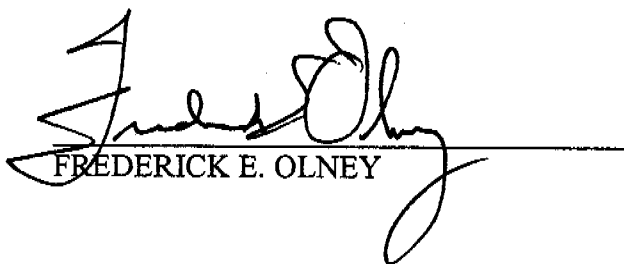
that Mr. Lohn uses to claim that “transport showed a benefit in one year” were from the 2002 migration: the 2002 preliminary return data show an SAR of 0.78 for the marked transport group from Lower Granite Dam and 0.70 for the marked group returned to the river. At Little Goose Dam, however, the SARs for the 2002 migration for the marked transport group was 0.20 compared to 0.70 for the marked group returned to the river. Thus, Mr. Lohn claims that transport showed a benefit in 2002 based on very small differences in SARs at Lower Granite (0.78 transport SAR versus 0.70 return to river SAR) while not mentioning the much lower SAR for the transport group at Little Goose Dam (0.20 transport SAR versus 0.70 return to the river SAR).

20. Moreover, as I noted in my previous declaration (¶ 12), these recent juvenile system mortality rates (for 2000, 2001 and 2003) demonstrate that the federal operations have failed to meet the 2000 BiOp’s 2010 performance standard in three out of the four most recent years, with the fourth year (2002) just lacking survival estimate data. They also failed to meet the 2000 BiOp’s take limitation for these three years, which was 88% (2001) - 87% (2010) total system juvenile mortality for Snake River fall Chinook. A.R. B.156 (2000 BiOp) at Table 10.1-1. I also noted in my previous declaration (¶ 24) that these recent juvenile system mortality rates also failed to meet NOAA Fisheries’ 2004 BiOp standard in Table 10.3. As Mr. Lorz notes in his declaration, under the proposed federal operations, juvenile system mortality will likely exceed the total system mortality identified in the 2004 BiOp as indicating that incidental take allowance has been violated. Lorz Dec. (Inj.) ¶ 28. This year will make it the fourth year in six that operations failed to meet the applicable take limitation (data for 2004 is not yet available).

Holdovers

21. In his declaration, Mr. Ocker states, "Recent reports have indicated that estimates of inriver survival for fall Chinook ..., as reported by Mr. Olney, are not calculable due to the number of juvenile fall Chinook holding over in the reservoirs." Ocker Dec. ¶ 27. The in-river survival estimates Mr. Ocker refers to "as reported by Mr. Olney" were clearly identified in my declaration as NOAA Fisheries' survival estimates which they had included in their July 1, 2004 Findings Report. *See* Olney PI Dec. (First) ¶ 24. Mr. Lohn also refers to these same survival estimates in his declaration when he states "we reported that in-river juvenile survival exceeded the 1994-1999 average in two out of three years since 1999." Lohn Dec. ¶ 17. When Mr. Lohn referred to these NOAA Fisheries' estimates in his declaration, he did not characterize them as "not calculable" as Mr. Ocker contends.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed this 16th day of May, 2005, at Portland, OR.


FREDERICK E. OLNEY