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**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF OREGON  
PORTLAND DIVISION**

**NATIVE FISH SOCIETY,  
MCKENZIE FLYFISHERS,**

Plaintiffs,

v.

**NATIONAL MARINE FISHERIES  
SERVICE, PENNY PRITZKER,  
Secretary of Commerce, WILLIAM STELLE,  
Regional Administrator, NMFS, OREGON  
DEPARTMENT OF FISH & WILDLIFE,  
ROY ELICKER, Director, ODFW,  
BRUCE McINTOSH, Acting Fish  
Division Administrator, ODFW, CHRIS  
WHEATON, Northwest Region Manager,  
ODFW,**

**Case No.: 3:12-cv-431-HA**

**MEMORANDUM IN SUPPORT OF  
MOTION FOR PARTIAL  
SUMMARY JUDGMENT**

Defendants.

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## **GLOSSARY OF ACRONYMS**

APA	Administrative Procedure Act
BiOp	Biological Opinion
BMP	Best Management Practice
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
HGMP	Hatchery and Genetic Management Plan
HSRG	Hatchery Scientific Review Group
ITS	Incidental Take Statement
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
ODFW	Oregon Department of Fish & Wildlife
pHOS	Proportion of Hatchery-Origin Spawners
USFWS	U.S. Fish & Wildlife Service

## **GLOSSARY OF TERMS**

*Integrated recovery program* - An artificial propagation project primarily designed to aid in the recovery, conservation or reintroduction of particular natural population(s), and fish produced are intended to spawn in the wild or be genetically integrated with the targeted natural population(s). Sometimes referred to as “supplementation”. (AR 16413–14 – ODFW Definition)

*Isolated harvest program* - Project in which artificially propagated fish produced primarily for harvest are not intended to spawn in the wild or be genetically integrated with any specific natural population. (AR 16414 – ODFW Definition)

Hatchery programs are classified as genetically *segregated* if the broodstock is propagated as a reproductively distinct population primarily, if not exclusively, from adult returns back to the hatchery. In segregated programs, little or no gene flow should occur from a naturally spawning population to the hatchery broodstock. (AR 21180 – HSRG Definition)



## **INTRODUCTION**

Plaintiffs (“NFS”) move for partial summary judgment, asking the Court to declare that the National Marine Fisheries Service (“NMFS”) violated the National Environmental Policy Act (“NEPA”) and Endangered Species Act (“ESA”) in its September 2012 decision (“Section 4(d) Decision”) approving four Hatchery and Genetic Management Plans (“HGMPs”) for the Sandy Hatchery, and in issuing a Biological Opinion (“BiOp”), Environmental Assessment (“EA”), and Finding of No Significant Impact (“FONSI”) in support of that decision. NFS also seeks a declaration that NMFS must prepare an Environmental Impact Statement (“EIS”) before approving HGMPs for fish harvest augmentation programs at the Hatchery.

NMFS has paramount responsibility among federal agencies for ensuring the survival and recovery of self-sustaining, natural populations of anadromous fish protected under the ESA. The wild spring Chinook and coho salmon and winter steelhead in the Sandy River are among the few remaining viable native populations in the Lower Columbia River, and their recovery is critical to recovery of their species. The Sandy River offers an unparalleled locale for these wild fish to recover, yet the Sandy Hatchery remains a limiting factor to their recovery. In approving the HGMPs developed by the Oregon Department of Fish & Wildlife (“ODFW”) for the Sandy Hatchery, NMFS failed in its duty to engage in the fully-informed decisionmaking NEPA requires, and failed to ensure that the HGMPs would contribute to the recovery of the Sandy River’s wild fish populations in violation of the ESA.

## **BACKGROUND**

The background of this case, the legal standards for protecting wild fish under the ESA and NEPA, and the course of proceedings, are set forth in this Court’s May 16, 2013, Opinion and Order (Dkt # 120) at 2–12. These issues are addressed in this brief to the extent necessary.

## **I. LEGAL FRAMEWORK**

### **A. The Endangered Species Act.**

The purpose of the ESA is “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation” of such species. 16 U.S.C. § 1531(b). Congress’s policy is that “all Federal departments and agencies *shall* seek to conserve endangered species and threatened species.” *Id.* § 1531(c)(1) (emphasis added). By “conserve,” the ESA means “the use of all methods and procedures which are necessary” to bring listed species “to the point at which the measures provided pursuant to this chapter are no longer necessary,” that is, “to allow a species to recover to the point where it may be delisted.” *Id.* § 1532(3); *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004). The “primary goal” of the ESA’s recovery mandate “is to preserve the ability of natural populations to survive in the wild” and become self-sustaining, without human aid. *Trout Unlimited v. Lohn*, 559 F.3d 946, 957 (9th Cir. 2009).

#### **1. ESA Section 7 consultation.**

ESA § 7(a)(2) requires all federal agencies to “insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered or threatened species” or result in the adverse modification or destruction of critical habitat. 16 U.S.C. § 1536(a)(2). If an agency determines that a listed species of anadromous fish is likely to be adversely affected by a proposed action, the agency conducts formal consultation with NMFS. 50 C.F.R. § 402.14(a)-(b)(1). Consultation must be based on “the best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8).

The result of consultation is a BiOp, whereby NMFS determines whether the proposed action, together with its cumulative effects, is likely to jeopardize the continued existence of a

listed species or adversely modify its critical habitat. 50 C.F.R. § 402.14(g)(4). To “jeopardize the continued existence” of a species is to “engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” *Id.* § 402.02. “[T]he jeopardy regulation requires NMFS to consider both recovery and survival impacts.” *Nat’l Wildlife Fed’n v. NMFS*, 524 F.3d 917, 931 (9th Cir. 2008).

If NMFS concludes that the proposed action would not result in jeopardy, the BiOp must include an Incidental Take Statement (“ITS”). 16 U.S.C. § 1536(b)(3).<sup>1</sup> An ITS specifies the amount or extent of the impact on listed species of any incidental taking, as well as Reasonable and Prudent Measures to minimize such impact and Terms and Conditions that must be followed. 50 C.F.R. § 402.14(i)(1)(i), (ii), (iv). If the amount or extent of incidental take specified in the ITS is exceeded, or if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, the agency must reinitiate formal consultation immediately. *Id.* §§ 402.14(i)(4), 402.16(a)-(b).

## **2. ESA Section 4(d) protective regulations.**

In conjunction with listing decisions in 2000 and 2005, NMFS issued a rule (the “4(d) Rule”) adopting regulations to conserve threatened anadromous fish species.<sup>2</sup> Protective measures adopted pursuant to the conservation mandate in ESA § 4 must provide for both the survival and the recovery of species in the wild. *Id.* § 1533(d); *Gifford Pinchot*, 378 F.3d at 1070

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<sup>1</sup> The “take” of listed species is prohibited under ESA Section 9. 16 U.S.C. § 1538(a)(1)(B).

<sup>2</sup> Endangered and Threatened Species; Final Rule Governing Take of 14 Threatened Salmon and Steelhead Evolutionarily Significant Units, 65 Fed. Reg. 42,422, 42,475–81 (July 10, 2000); Endangered and Threatened Species; Final Listing Determinations for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs, 70 Fed. Reg. 37,160, 37,194 (June 28, 2005) (amending 2000 rule); *codified at* 50 C.F.R. § 223.203.

(designation of critical habitat). The 4(d) Rule applied the take prohibition to several threatened salmonid species, including those—the Lower Columbia River (“LCR”) Chinook and LCR Coho Evolutionarily Significant Units (“ESUs”) and the LCR Steelhead Distinct Population Segment (“DPS”)—present in the Sandy River.<sup>3</sup> 50 C.F.R. §§ 223.102(c)(7), (12), (13), (20). Despite the ESA’s emphasis on recovery of wild natural populations, NMFS may include hatchery-bred and wild fish in the same designated ESU and DPS, *see Trout Unlimited*, 559 F.3d at 952, and did so in designating the LCR salmon species (but not the LCR Steelhead DPS). NMFS can choose to delist a species only if the natural population is able to sustain itself in the wild. *See id.*

The 4(d) Rule includes several exceptions to the take prohibition, commonly referred to as the “4(d) Limits.” 50 C.F.R. § 223.203(b). For artificial propagation programs, Limit 5 provides a series of criteria that NMFS must approve and the hatchery operator must implement to secure a take exemption. *Id.* §§ 223.203(b)(5)(i)-(v). In 2005, NMFS issued a final Hatchery Listing Policy to guide its listing decisions and development of protective regulations. Policy on the Consideration of Hatchery-Origin Fish, 70 Fed. Reg. 37,204 (June 28, 2005). The Hatchery Listing Policy requires that NMFS “apply this policy in support of the *conservation* of naturally-spawning salmon and the ecosystems upon which they depend” and evaluate the contribution of hatchery fish “in assessing an ESU’s status in the context of their contributions to *conserving* natural self-sustaining populations.” 70 Fed. Reg. at 37,215 (emphasis added).

#### **B. The National Environmental Policy Act of 1969.**

Environmental review under NEPA “ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant

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<sup>3</sup> The 2005 4(d) Rule amendment applies the ESA § 9 take prohibition to threatened fish with an intact adipose fin. 70 Fed. Reg. at 37,167. Hatchery fish in the Sandy River basin are “ad-clipped,” so only wild fish are subject to the take prohibition. *See* AR 16549.

environmental impacts,” and “guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.” *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (internal citations and alteration omitted). Agencies must prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C).

The agency must prepare a detailed EIS “[i]f there is a substantial question whether an action may have a significant effect on the environment.” *Ctr. for Biol. Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1185 (9th Cir. 2008) (quotation marks omitted). NEPA requires agencies to involve the public in “scoping” such actions, an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.” 40 C.F.R. § 1501.7. If an agency is uncertain whether a proposed action may have a significant effect, it may first prepare an EA. 40 C.F.R. § 1508.9. The purpose of an EA is to provide the agency with sufficient evidence and analysis for determining whether to prepare an EIS or to issue a FONSI. *Metcalf v. Daley*, 214 F.3d 1135, 1143 (9th Cir. 2000).

If the agency decides not to prepare an EIS, the agency’s FONSI must set forth a “convincing statement of reasons” to explain why the action will not have a significant impact on the environment. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998); *see also* 40 C.F.R. §§ 1501.4(e), 1508.13. “The statement of reasons is crucial to determining whether the agency took a ‘hard look’ at the potential environmental impact of a project.” *Blue Mountains*, 161 F.3d at 1212 (internal citations omitted). Conclusions reached without any study or supporting documentation are insufficient to satisfy an agency’s NEPA obligations. *Marble Mountain Audubon Soc. v. Rice*, 914 F.2d 179, 182 (9th Cir. 1990).

## **II. THE ENVIRONMENTAL AND ECOLOGICAL CONTEXT**

### **A. The Sandy River Basin.**

The Sandy River flows 55 miles from its headwaters on the west side of Mount Hood and enters the Columbia River 17 miles east of Portland, downstream of all the dams on the mainstem of the Columbia. AR 16529–30. Its watershed covers an area of about 508 square miles. *Id.*; see AR 8058, AR 16530, AR 48975 (maps of Sandy River basin). The division between the lower and upper basins of the Sandy River is the former site of the Marmot Dam, located at River Mile 30. AR 16530, 16731. Spring Chinook have nearly 80 miles of historical habitat available in the basin; steelhead, about 217 miles; and coho, about 154 miles. AR 48975.

The removal of the Marmot and Little Sandy River Dams in 2007 and 2008 opened nearly 60 miles of spawning habitat in the upper Sandy River basin and Bull Run watershed to natural fish migration.<sup>4</sup> AR 16530, 16718. The upper Sandy River basin is designated as a wild fish sanctuary, essential to the conservation of these ESA-listed fish. *See, e.g.*, AR 16270. Over \$100 million are committed to habitat conservation in the basin. AR 16718. The Sandy River system thus contains extensive, high-quality, accessible spawning and rearing habitat from which its fish can pass to the oceans unimpeded by dams. AR16529, 16560. These uniquely favorable conditions make the Sandy River basin an unrivaled site for recovery of wild fish. AR 16718.

### **B. Protected Fish in the Sandy River Basin.**

Wild fish runs in the Sandy River have shrunk to 5 to 10% of their historical numbers. AR 32391 (historical runs as high as 20,000 winter steelhead, 15,000 coho salmon, 10,000 fall Chinook, and 10,000 spring Chinook); AR 16561 (EA Table 2 showing 969 wild winter

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<sup>4</sup> Before removal of the Marmot Dam, wild fish were handled and sorted at a fish ladder at the dam and passed into the upper basin starting in 1997. Before 1997, both hatchery and wild fish were passed into the upper basin. AR 16770.

steelhead, 901 wild coho, and 1,330 wild spring Chinook in 2010, the last year reported). Despite these declines, the wild fish populations in the Sandy River remain critical to the survival and recovery of their species. The Hatchery Scientific Review Group (“HSRG”), an independent panel of experts tasked by Congress to evaluate hatchery reform, designated all wild fish in the Sandy River as “Primary Populations,” reflecting that these populations have the highest conservation importance within their species. AR 37590 & n.1, 37700, 37736.

The LCR Chinook Salmon ESU as a whole is currently at very high risk of extinction, while the Sandy River population is at moderate to high risk of extinction. AR 16560, 19551. The Sandy River population is essential to the survival of this species in the wild because it is the only one of the nine spring Chinook populations in the ESU not extirpated (or nearly so). AR 19541. Genetic and ecological threats from hatcheries pose a substantial risk factor. *Id.* The Lower Columbia River Coho Salmon ESU is at very high risk of extinction, with 24 of the 27 populations, including the Sandy population, considered at very high risk. AR 16565, 19568, 19579. The Sandy River is again essential to any hope of recovery of this species, because its coho population is one of only two with any significant production. AR 19568. The lower Columbia River Steelhead DPS, including the Sandy population, is at high risk of extinction. AR 16569. Only the winter steelhead run is native; the Sandy Hatchery produces a non-native summer steelhead run, which, together with its artificially propagated winter steelhead run, are limiting factors for wild winter steelhead. AR 16567, 16570.

**C. The Sandy Hatchery.**

The Sandy Hatchery is located on Cedar Creek,  $\frac{3}{4}$  mile above its confluence with the Sandy River, 22 miles above the Sandy River’s confluence with the Columbia. AR 680, 16535. The approved HGMPs provide for release of more than 1,000,000 hatchery-bred smolts into the

Sandy River basin annually—300,000 spring Chinook, 500,000 coho, 160,000 winter steelhead, and 75,000 summer steelhead. AR 16535, 16541, 16546, 16550. The Sandy Hatchery programs are intended to be genetically segregated “harvest” rather than “conservation” programs, which provide fishing opportunities rather than maintain or increase the number of naturally producing fish. AR 680–81; AR 16414; AR 21180. The hatchery remains a major limiting factor preventing recovery of wild fish in the Sandy River basin. AR 16567, 16570, 19541.

Spring Chinook are to be released from the Bull Run River acclimation pond beginning in 2013, while the other programs release fish in Cedar Creek. AR 16540, 16928. Since 2011, ODFW has operated weir/traps in the Salmon and Zigzag Rivers to attempt to sort hatchery-bred spring Chinook spawners from wild spring Chinook. AR 16537. Weirs are not used to prevent returning hatchery coho or steelhead from spawning. *See* AR 16621, 16627.

#### **D. Hatchery Effects on Wild Fish.**

Scientific studies of hatchery operations consistently conclude that hatchery fish pose a threat to wild fish, and by extension to the survival and the recovery of wild fish populations and the species of which the wild fish are the critical parts. *See* AR 16584–95, 16947–61 (listing factors that harm wild fish, including interactions between hatchery fish and wild fish that can result in hatchery fish out-competing wild fish and may alter behavioral patterns, genetic introgression, and installation and operation of weirs); Declaration of Gordon Luikart (Dkt # 151) ¶¶ 17–24, 30–31; Third Declaration of Christopher A. Frissell, Ph.D. (Dkt # 152) ¶¶ 13–15.

In previous litigation in this Court, Edward Bowles, the Fish Division Director for ODFW, explained the danger hatcheries pose to the survival and recovery of wild salmon and steelhead: “[t]he threats to wild populations caused by stray hatchery fish are well documented in the scientific literature. Among the impacts are substantial genetic risks that affect the fitness,



productivity and genetic diversity of wild populations.” Amended Decl. of Edward Bowles at ¶ 127, *Nat’l Wildlife Fed’n v. NMFS*, 839 F. Supp. 2d 1117 (D. Or. 2011) (No. 01-cv-640-RE), ECF No. 1633 (citations omitted). Hatchery programs “pose ecological risks to wild populations that can further decrease abundance and productivity,” and “[g]enetic risks increase substantially when the proportion of the adult population that is hatchery fish increases over 5%.” *Id.*<sup>5</sup>

This proportion of hatchery-origin spawners (“pHOS” or “stray rate”) is the key parameter for measuring effects on natural populations. AR 20668. In 2009, the HSRG recommended that the pHOS in segregated programs that influence Primary Populations, such as those in the Sandy River, be maintained at 5% or lower, to limit genetic and ecological risks that hatchery fish pose to wild fish. AR 37578. “Stray rates as low as one to two percent for a large, segregated harvest program may pose unacceptable risks to natural populations.” AR 21266.

Fish bred in hatcheries become “domesticated,” better adapted to unnatural conditions (such as high density and unnatural food and habitat conditions), quickly losing their ability to survive and reproduce in the wild. Luikart Decl. ¶ 17. Genes underlying these maladaptive traits become fixed in the short time hatchery fish are raised to smolts, and the domestication effects occur even when hatchery fish are derived from a wild population. *Id.* When these hatchery fish breed with wild fish, the maladaptive, deleterious genes are likely to be transmitted, through

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<sup>5</sup> When NMFS defended its emphasis on wild fish populations for species recovery, the court found that “the underlying science regarding the impact of hatchery fish on natural populations and the conclusions reached by NMFS based on that science are entirely undisputed.” *Cal. State Grange v. NMFS*, 620 F. Supp. 2d 1111, 1158 (E.D. Cal. 2008) (finding that “[h]atchery fish are less fit for survival in the wild than genetically similar wild fish” and “[h]atchery releases have a significant negative effect on the productivity of wild populations”). Furthermore, “[i]t is a fact that no one has ever used a salmon hatchery to restore a depressed wild population to the point where it is self-sustaining,” and “there is little or no evidence that hatcheries have been effective over the long term at assisting in the recovery of wild populations.” *Id.*

cross-breeding and introgression, into wild fish, reducing the fitness of wild fish. *Id.* ¶ 18. Fish bred in hatcheries diverge genetically from wild fish within a single generation. AR 36480.

The adverse effects of hatchery fish spawning among the wild population quickly accumulate and, over time, will result in the decline of wild fish populations if hatchery strays persistently spawn among the natural populations. Luikart Decl. ¶¶ 22–24. The reproductive success of the first-generation of hatchery fish bred from wild broodstock is only 60% to 80% of wild fish spawning naturally, and two second-generation hatchery fish spawning together have less than 40% of the reproductive success of two wild fish spawning together. *Id.* ¶ 19. Because genetic introgression effects accumulate over time, and given the annual 10% allowable hatchery stray rate under the HGMPs, productivity of wild fish in the Sandy River is likely to decline, resulting in the decline in wild fish abundance. *Id.* ¶¶ 22, 28.

In addition, the operation of artificial barriers to migration, such as the weir/traps ODFW is using to attempt to control the spring Chinook stray rate, harms wild fish by delaying upstream migration, forcing fish to spawn prematurely in stream reaches containing high concentrations of redds, and physically harming fish by handling them during the trapping and sorting process. AR 16589; Third Frissell Decl. ¶¶ 35, 37–38, 40.

### **III. SANDY HATCHERY OPERATIONS SINCE 2007 AND NMFS DECISIONS.**

#### **A. Hatchery Operations Since 2007.**

After removal of the Marmot Dam opened more than 50 miles of habitat in the upper Sandy River basin to unimpeded access for spawning fish, AR 16530, 16718, hatchery-bred spring Chinook surged into the wild fish sanctuary above the former dam site. Nowhere in the EA or BiOp does NMFS expressly disclose the magnitude of the stray problem, merely noting that “[c]urrently, the proportion of hatchery spring Chinook salmon in the naturally spawning

population exceeds the 10 percent goal” in the HGMP. AR 16538. In fact, the stray rates of hatchery spring Chinook among the naturally-spawning population were 45%, 52%, 78%, and 61% in the four years after the Marmot Dam was removed (2008–2011) in the reaches ODFW monitored. AR 31745, 31748, 50116. The proportion of hatchery-origin spring Chinook in the Bull Run River, which ODFW does not monitor, reached 36.8% in 2010 and 43.1% in 2011. AR 51838. These high stray rates likely have already caused high rates of introgression of maladaptive hatchery genes into the natural population. Luikart Decl. ¶ 31.

In recent years, stray rates for steelhead and coho also have exceeded the 5% threshold that the best available science considers necessary to protect wild fish in segregated programs. In 2010, ODFW reported a 28.6% stray rate for winter steelhead in the Sandy River basin based on minimal monitoring, and the stray rate in the spring of 2012 was at least 27%. Declaration of Mark Lewis (Dkt # 92) ¶ 55 & Table 2; *see* AR 11369 (ODFW-NMFS correspondence in June 2012 showing that ODFW passed 34 wild and 334 hatchery-bred winter steelhead into spawning habitat in Cedar Creek upstream of the Sandy Hatchery); Memo in Support of Motion for TRO/PI (Dkt # 59) at 17–18; Declaration of Richard Turner (Dkt # 78) ¶ 20 (confirming calculation of approximately 27% stray rate in 2012). The EA shows no monitoring for winter steelhead strays was done in 2008 and 2009. AR 16561. In its final revision to the coho program HGMP, submitted to NMFS two days before NMFS approved it on September 28, 2012, ODFW reported that coho stray rates had reached 10.4% in 2009 and 24.2% in 2010. AR 15626.

During 2011, ODFW installed weir/traps in the Salmon and Zigzag Rivers for one month each. AR 31747. These weirs caused a dramatic change in the distribution of spawning fish, with an absolute increase of 500% in the proportion of redds in the one-mile-long reach downstream of the Zigzag River weir (from 3% to 18% of total redds in that river) and an absolute increase of

109% in the proportion of redds in the approximately 2 mile reach downstream of the Salmon River weir (from 11% to 23% of redds in that river). *Id.* Despite the operation of the weirs, the proportion of hatchery origin spring Chinook in the spawning population was 61%. AR 50116.

In 2012, ODFW operated two weirs in the Salmon and Zigzag Rivers from mid-June to mid-October, the duration of the 2012 spring Chinook spawning run, and released over 1,000,000 hatchery-bred smolts into the Sandy River basin. AR 680–81; Memo in Support of Motion for TRO/PI, Ex. 3 at 5, 50–52 (ODFW 2012 Compliance Report). Despite the weirs, the proportion of hatchery-bred spring Chinook among the spawning population in the areas ODFW monitored was at least 25–30%. Memo in Support of Motion for TRO/PI, Ex. 3 at 5. ODFW did not monitor the mainstem Sandy River, nor the Bull Run River, where the stray rate in 2011 was 43.1%. *Id.* at 3; AR 51838. The total proportion of hatchery-origin spring Chinook spawners in the Sandy River basin therefore was almost certainly higher than 30% in 2012.

In addition, the placement of weirs for the full duration of the spring Chinook spawning season on two major tributaries resulted in dramatic displacement of spring Chinook spawning downstream of the weirs. Factoring together ODFW data with U.S. Forest Service redd monitoring data, the proportion of redds in the Zigzag River (including its Still Creek tributary) downstream of the weir rose to 25.97%, compared with 0.5% in 2010 and 11.39% in 2011<sup>6</sup>—a 5,094% increase in the proportion of spawning occurring downstream of the weir since the year prior to the weirs' operation. Declaration of Mark Sherwood, Ex 1 (Dkt # 101-1) at 7; AR 31747. In the Salmon River, over 20% of the redds were downstream of the weir, compared to 11% in 2010 and 23% in 2011—a nearly 82% increase in the proportion of spawning occurring below the weir since 2010. Declaration of Mark Sherwood, Ex 1 at 7; AR 31747.

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<sup>6</sup> These figures are calculated based on the percentages of redds below the weirs reported by ODFW in its 2011 spawning survey (AR 31747) and the Forest Service's peak redd count data.

**B. NMFS Approval of the HGMPs.**

On September 28, 2012, NMFS issued the Section 4(d) Decision approving for the first time the Hatchery HGMPs and concurrently issued the final EA, a FONSI, and the BiOp (including an ITS) related to the proposed action adopted in the Section 4(d) Decision. AR 17007, 16518, 16661, 16905. The Section 4(d) Decision contains implementation terms with which ODFW must comply, such as ensuring “that the proportion of hatchery fish in the naturally spawning population requirements as described in the HGMPs and the Recovery Plan are met (i.e., annually less than 10 percent for spring Chinook salmon, coho salmon and winter steelhead, and less than 5 percent for summer steelhead).” AR 17010–11.

The BiOp’s ITS includes five limits of permissible take. AR 16969–71. The second limit specifies “the extent of take for spawning ground interactions is stray rates of 10 percent of the spawning population in the case of Chinook and coho salmon and winter steelhead, and five percent of the spawning population in the case of hatchery summer steelhead,” and the fourth is “any change greater than 20 percent in spawning distribution above and below the weirs and in pre-spawning mortality from what was measured during previous spawning ground surveys prior to the installation and operation of the weirs in 2011.” AR 16970–71.

**ARGUMENT**

**I. STANDARD OF REVIEW**

Summary judgment is appropriate “if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(c); *see Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

The substantive law governing a claim determines whether a fact is material. *Anderson v. Liberty*

*Lobby, Inc.*, 477 U.S. 242, 248 (1986). The Administrative Procedure Act (“APA”), 5 U.S.C. §§ 551–59, 701–06, provides the standard for judicial review of decisions by federal administrative agencies. *See Dickinson v. Zurko*, 527 U.S. 150, 152 (1999); *Mtn. Rhythm Res. v. FERC*, 302 F.3d 958, 963 (9th Cir. 2002). Pursuant to the APA, this Court shall hold unlawful agency actions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” or adopted “without observance of procedure required by law.” 5 U.S.C. §§ 706(2)(A), (D).

A decision is arbitrary and capricious if the agency has “entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Motor Vehicle Mfrs. Ass’n, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). An agency must articulate a rational connection between the facts found and the conclusions made, and the reviewing court must determine by “searching and careful” inquiry whether an agency decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989). An agency’s decision can be upheld only on the basis of the reasoning found in that decision. *Anaheim Mem’l Hosp. v. Shalala*, 130 F.3d 845, 849 (9th Cir. 1997).

## **II. NMFS VIOLATED NEPA IN APPROVING THE HGMPs**

### **A. NMFS Must Prepare an EIS to Evaluate the Sandy Hatchery Operations.**

NMFS must prepare an EIS if “the agency’s action *may* have a significant impact upon the environment.” *Nat’l Parks & Conservation Ass’n. v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001) (“NPCA”) (emphasis in original; internal quotes omitted); *see Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2004) (an EIS is required if “substantial questions” exist as to whether a project may have a significant environmental effect). “This is a low standard.” *Klamath Siskiyou*

*Wildlands Ctr. v. Boody*, 468 F.3d 549, 562 (9th Cir. 2006). “An agency must generally prepare an EIS if the environmental effects of a proposed agency action are highly uncertain.” *Blue Mountains*, 161 F.3d at 1213. “Preparation of an EIS is mandated where uncertainty may be resolved by further collection of data or where the collection of such data may prevent ‘speculation on potential . . . effects. The purpose of an EIS is to obviate the need for speculation . . . .’” *NPCA*, 241 F.3d at 732 (quoting *Sierra Club v. U.S. Forest Serv.*, 843 F.2d 1190, 1195 (9th Cir. 1988)). Lack of knowledge does not excuse the preparation of an EIS; rather it requires the agency “to do the necessary work to obtain it.” *Id.* at 733.

NEPA regulations define the term “significantly” as requiring analysis of both the “context” and the “intensity” of a proposed action. 40 C.F.R. § 1508.27. The context of the action includes “society as a whole (human, national), the affected region, the affected interests, and the locality.” *Id.* § 1508.27(a). The regulation lists ten, non-exclusive intensity factors. *Id.* § 1508.27(b). The potential presence of even one significance factor is sufficient to require the preparation of an EIS. *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 865 (9th Cir. 2005). The unique context of the Sandy River alone warrants an EIS for the operations of the Sandy Hatchery, and at least five of the ten intensity factors are present.

If the agency decides not to prepare an EIS, the agency must supply a “convincing statement of reasons” to explain why the action will not have a significant impact on the environment. *Blue Mountains*, 161 F.3d at 1212. NMFS provides no convincing statement of reasons explaining why approval of the HGMPs may not have significant effects. AR 16661–68.

**1. The unique characteristics of the geographic area and the context of the proposed action require preparation of an EIS.**

When “the unique characteristics of the geographic area in which the proposed activity is to occur involves proximity to ecologically critical areas, the impact of the action may be

considered significant.” *Ocean Mammal Inst. v. Gates*, 546 F. Supp. 2d 960, 978 (D. Haw. 2008) (citing 40 C.F.R. § 1508.27(b)(3)). ODFW has designated and ostensibly manages the upper Sandy River basin as a wild fish sanctuary. *See* AR 16246. Harm to wild fish from weirs and straying of hatchery-bred fish occurs within this “sanctuary,” as well as within designated critical habitat for LCR Chinook and LCR steelhead. AR 16530. An activity that may cause harm to a protected species within a designated sanctuary or other ecologically critical area must be analyzed in an EIS. *Ocean Mammal Inst.*, 546 F. Supp. 2d at 978. The status of Sandy River fish populations as HSRG “Primary Populations” underscores the uniqueness of the area. AR 37590.

NMFS also ignores the significant context of its proposed action. NEPA regulations note that “in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole.” 40 C.F.R. § 1508.27(a). The Sandy River basin is unmatched as a potential place for wild fish recovery and for supporting the recovery of the LCR species, but also is a place where the hatchery is a major limiting factor. *Supra* at 6–7. The affected resource (threatened fish) is protected by the nation’s most comprehensive environmental law, and the wild fish populations in the Sandy River are among the few viable populations remaining in the ESUs or DPS. NMFS’s EA ignores the cumulative significance of *these* wild fish within *these* species in *this* unique locale for their preservation. NMFS’s FONSI does not even evaluate the “context” factor. AR 16661–68. The significant context of the proposed action warrants preparation of an EIS. *See Anderson*, 371 F.3d at 490.

**2. The proposed action is likely to be highly controversial and involves uncertain effects and unique or unknown risks.**

NMFS must prepare an EIS for its approval of the Sandy Hatchery HGMPs if the effects on the human environment are “likely to be highly controversial,” 40 C.F.R. § 1508.27(b)(4), or if the “possible effects . . . are highly uncertain or involve unique or unknown risks.” 40 C.F.R. §



1508.27(b)(5). “A proposal is highly controversial when there is “‘a substantial dispute [about] the size, nature, or effect of the major Federal action rather than the existence of opposition to a use.’” *Anderson*, 371 F.3d at 489 (quoting *Blue Mountains*, 161 F.3d at 1212). A project also is controversial if “substantial questions are raised as to whether a project ... may cause significant degradation of some human environmental factor.” *NPCA*, 241 F.3d at 736 (quotations omitted).

Many of the most important effects of NMFS’s proposed action are “uncertain” or “unknown.” AR 16538, 16612–13, 16615, 16662. NMFS admits that “it is unknown if the operation of the weir/traps will be successful in removing enough of the hatchery spring Chinook salmon adults to meet the 10 percent goal, while at the same time minimizing impacts on natural-origin spring Chinook salmon that are handled and released during collection activities.” AR 16538. Similarly, the efficacy of the new Bull Run River acclimation will not be known for four to five years. AR 31747. NMFS never evaluated whether acclimation might succeed, and, in fact, acclimation is likely not to succeed for several reasons, including high water temperatures in the Bull Run River relative to the upper Sandy River basin. Third Frissell Decl. ¶¶ 48, 50–51. Nor did NMFS evaluate the implications of allowing a perpetual 10% stray rate in each program or acknowledge that adverse genetic introgression effects from hatchery fish straying accumulate over time—another unique yet unknown risk of the proposed action. Luikart Decl. ¶¶ 22–24.

Because NMFS acknowledges that the effects are highly uncertain and involve unknown risks, there are substantial questions whether these operations may cause a degradation of the wild fish populations in the Sandy River basin. NMFS also had before it evidence that the operation of the weirs during 2011 had increased the proportion of spawning redds located downstream of the two weirs, doubling the proportion in the Salmon River and increasing it six-fold in the Zigzag River. AR 31747. The certainty of threats to wild fish leaves few questions as

to whether the Hatchery operations will degrade wild fish populations, rendering the project highly controversial. *NPCA*, 241 F.3d at 736. The FONSI’s statement that no unknown risks have been identified and that uncertainties will be addressed with monitoring does not provide a convincing explanation that the effects of the programs will not be significant, given the agency’s acknowledgment of several critical uncertainties in its analysis. AR 16666.

**3. The proposed action is likely to adversely affect listed fish and threatens a violation of the ESA.**

The “degree to which the action may adversely affect an endangered or threatened species” or its critical habitat, and “[w]hether the action threatens a violation of” a federal environmental protection law are two other intensity factors at play in this case. 40 C.F.R. § 1508.27(b)(9)-(10). This action involves the approval of an action *that the approving agency acknowledges will adversely affect listed wild fish*. See *supra* at 8–9 & 9 n.5; *Cal. State Grange*, 620 F. Supp. 2d at 1158. The principal mitigation—weirs and smolt acclimation in the Bull Run River—is of “unknown” effectiveness or likely to be ineffective in preventing adverse effects. AR 16538, 16612–13, 16615, 16662, 31747; Third Frissell Decl. ¶¶ 35, 37–38, 40, 48, 50–51.

Given that NMFS was aware that the spring Chinook stray rate had only been reduced to 61% after partial weir operations in 2011, setting a reinitiation trigger that required ODFW to meet a take limit of 10% hatchery strays certainly “threatened a violation of the ESA” even at the time NMFS made its decision, as did the uncertainty that the proposed action would successfully avoid harm to wild fish from accumulating genetic introgression and inadequate mitigation. AR 31748; Third Frissell Decl. ¶¶ 35, 37–38, 40, 48, 50–51; Luikart Decl ¶¶ 22–24, 28, 30–31.

**B. Failure to Consider Reasonable Alternatives.**

NEPA requires that an agency “[r]igorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14(a). The requirement to “study, develop, and

describe appropriate alternatives ... applies whether an agency is preparing an [EIS] or an [EA].” *N. Idaho Cmty. Action Network v. U.S. Dep’t of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008) (per curiam) (citations omitted). In rejecting the adequacy of an EA, the Ninth Circuit confirmed that “[t]he existence of a viable but unexamined alternative renders an [EA] inadequate,” noting that, “[a]lthough an agency must still give full and meaningful consideration to all reasonable alternatives in an environmental assessment, the agency’s obligation to discuss alternatives is less than in an EIS.” *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013) (internal quotations and citations omitted). In this case, NMFS failed to consider a reasonable range of alternatives because it did not examine several reasonable and viable alternatives.

Despite the fact that the ESA requires that “all Federal departments and agencies *shall* seek to conserve endangered species and threatened species,” 16 U.S.C. § 1531(c)(1) (emphasis added), NMFS articulates a vague purpose and need to “provide fishing opportunities for the citizens of the Columbia River basin” and to meet vague, undefined “mitigation responsibilities” by creating “hatchery fish to support fishing opportunities.” AR 16528–29. The agency must consider all reasonable alternatives that could achieve the articulated purpose and need.<sup>7</sup> *Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 229 F. Supp. 2d 1140, 1144–47 (D. Or. 2002) (rejecting EA that considered a no-action alternative and two similar action alternatives).

There are “no numeric harvest goals for ocean, Columbia River, and Sandy River fisheries” for any of the Hatchery’s programs. AR 16535, 16541, 16546, 16550. The “need” for the action amounts to the production of an unspecified number of hatchery-bred fish to meet unquantified harvest objectives and provide “mitigation” for habitat loss that already has been

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<sup>7</sup> The purpose and need involves the false premise that this is a “mitigation” program. NMFS admits in the EA that no mitigation is required for effects of the Marmot Dam because it has been removed, and the effects of the Bull Run Dam are being mitigated by the roughly \$100 million habitat conservation plan financed by the City of Portland. AR 16531, 16535, 16781.

mitigated. Public comments identified several reasonable alternatives that would meet this need, including managing the Sandy River for wild fish recovery and a wild-fish fishery, rearing fish at the Hatchery for release and harvest outside the Sandy River basin, and mandatory, certain-to-occur measures to limit hatchery impacts if standards are not met. AR 16552–53, 16804–05. All would provide fishing opportunities, while minimizing the genetic and ecological effects on wild fish. NMFS failed to articulate any coherent reason for disregarding these viable alternatives. Because NMFS must prevent harm to listed fish and ensure their recovery, NMFS had a duty to consider viable alternatives besides “no action” and “exactly what ODFW proposed.”

**C. Failure to Analyze Mitigation.**

“An agency’s decision to forego issuing an EIS may be justified in some circumstances by the adoption of [mitigation] measures.” *NPCA*, 241 F.3d at 733-34. An adequate discussion of mitigation measures requires the agency to analyze the effectiveness of the proposed mitigation. *S. Fork Band Council of W. Shoshone v. U.S. Dep’t of Interior*, 588 F.3d 718, 727 (9th Cir. 2009). NMFS admits that it is unknown whether the main mitigation measures proposed—the weirs and Bull Run acclimation—will be successful in limiting the stray rate of hatchery spring Chinook to 10%. AR 16538, 16612–13, 16615, 16662, 31747. NMFS does not analyze whether the proposed suite of mitigation *will* bring the stray rates below 10% or to a lower level that may avoid significant genetic and ecological risk to wild fish, or what to do if they do not succeed. Luikart Decl. ¶¶ 22, 28, 30–31. NMFS does not analyze whether the operation of the weirs actually will mitigate harm from migration delay, and does not address premature spawning impacts at all. AR 16953, 16612; Third Frissell Decl. ¶¶ 35, 37–38, 40, 48, 50–51. The FONSI’s conclusion that “limited and negligible impacts due to migration delay from weir operations” is therefore unsupported by any analysis in the EA and contradicted by the data. AR 16661.

### **III. NMFS VIOLATED THE ESA IN APPROVING THE HGMPs.**

#### **A. NMFS's BiOp Violates ESA Section 7.**

##### **1. The BiOp fails to consider important aspects of the problem.**

A biological opinion is arbitrary and capricious if it fails to “consider the relevant factors and articulate a rational connection between the facts found and the choice made.” *Ctr. for Biol. Diversity v. BLM*, 698 F.3d 1101, 1121–22 (9th Cir. 2012) (internal quotations omitted). In a BiOp, the “problem” is whether the project will jeopardize listed species, and “any effect that is likely to adversely affect the species is plainly an important aspect of this problem.” *S. Yuba River Citizens League v. NMFS*, 723 F. Supp. 2d 1247, 1270 (E.D. Cal. 2010) (citing 50 C.F.R. §§ 402.13(a), 402.14(b)(1)). A BiOp is invalid where it fails to consider a factor relevant to species survival or recovery. *See, e.g., Ctr. for Biol. Diversity*, 698 F.3d at 1124 (USFWS failed to consider impacts of groundwater withdrawals on listed fish); *S. Yuba*, 723 F. Supp. 2d at 1272, 1274–75 (NMFS failed to consider impacts of hatchery strays, extent to which migratory habitat conditions impact listed fish, and impacts from poaching in pools below fish ladders).

##### **a. The BiOp does not take into account significant data regarding spring Chinook and winter steelhead.**

NMFS fails to take into account several important aspects of the environmental baseline for this project. *See S. Yuba*, 723 F. Supp. 2d at 1272. NMFS fails to include the elevated proportion of hatchery strays that have been present in the Sandy River basin in recent years in its baseline. AR 16943–45. Spring Chinook have had rates up to 78% pHOS, and the stray rates for winter steelhead reached 28.6% in 2010 and over 27% in 2012. Lewis Decl. ¶ 55 & Table 2; *see* AR 11369. Without disclosure and analysis of the baseline of harm that the Hatchery’s operations *already* have caused, NMFS has failed to evaluate the introgression of hatchery genes into the wild fish populations, and NMFS’s conclusion that the *continued* operations at a 10%

stray rate will not cause jeopardy is arbitrary and capricious. Luikart Decl. ¶¶ 30–31. The failure to disclose the baseline stray rates means that NMFS has no basis for determining whether the HGMPs’ mitigation measures actually will reduce stray rates to a level protective of wild fish.

In addition, NMFS failed to report or take into consideration the drastic drop in winter steelhead abundance in the three years prior to approving the winter and summer steelhead HGMPs. In the spring of 2012, the Sandy River winter steelhead redd abundance was the “lowest on record,” with only 208 redds counted compared with 879 in 2010. Lewis Decl. ¶ 55 & Table 2; Memo in Support of Motion for TRO/PI, Ex. 3 at 30. NMFS also fails to account for the plan to continue to pass both wild and hatchery-origin winter steelhead spawners above the weir on Cedar Creek or to explain how this will avoid jeopardy. AR 11369.

NMFS also fails to consider the potential harm that non-native, hatchery-bred summer steelhead are likely to cause to wild winter steelhead through genetic introgression or predation, or account for that harm in the BiOp, despite overwhelming scientific evidence of these effects. AR 22526. NMFS appears to assume that the winter steelhead and summer steelhead spawning periods are absolutely exclusive. *See* AR 16936. However, ODFW does not begin to survey for winter steelhead until February 1. Lewis Decl. ¶ 47 & n.3. Hatchery-bred winter steelhead spawn primarily in December and January. *Id.* n.3. NMFS ignores its own statement that winter steelhead may enter freshwater as early as November. AR 16935. Many Oregon wild winter steelhead populations include spawners in December and January, particularly in rivers such as the Sandy that host no natural summer steelhead run. Third Frissell Decl. ¶ 55. NMFS thus ignores that hatchery summer steelhead can spawn at the same time as wild winter steelhead, resulting in harmful genetic introgression to the wild winter steelhead population. *Id.* ¶ 56.

Finally, the BiOp fails to analyze any data from the Bull Run River, despite evidence that

spring Chinook stray rates reached as high as 43.1% during 2011, and despite the Bull Run system accounting for 76% of the steelhead smolts in the Sandy River basin, belying ODFW's unfounded estimate that 70% of steelhead spawning habitat occurs upstream of the former Marmot Dam site. AR 4865, 51835, 51863. NMFS also was aware that ODFW lacks data on how quickly Bull Run River smolts emigrate, and has no plans to conduct research specific to that question. AR 3337. Despite this, NMFS concludes in the BiOp that emigrating hatchery smolts are not expected to impact wild salmonids because they are not in close proximity and because hatchery releases are expected to leave the Sandy River basin within a matter of hours or at most days from the time of release. AR 16956. NMFS thus ignores the significance of the Bull Run to the species, ignores the impacts in that system, and ignores the glaring lack of research to support its suppositions about hatchery smolt emigration.

**b. The BiOp fails to consider whether the Bull Run acclimation facility and the weir/traps will limit hatchery stray rates and prevent harm to wild fish.**

Although NMFS mentions ODFW's plan to acclimate spring Chinook in the Bull Run River, NMFS fails to evaluate why or how such increased acclimation in a lower tributary will reduce the rate of hatchery strays entering the upper Sandy River basin. This is a significant omission, because NMFS ignores the likelihood that such acclimation is not likely to succeed in this system for this species. As Dr. Frissell explains, acclimation of Sandy River spring Chinook in the Bull Run River in the lower basin is antithetical to the long-term evolutionary adaptation of Sandy River spring Chinook, which are inclined to spawn in the colder waters of the upper basin. Third Frissell Decl. ¶ 48. The elimination of the upper Bull Run as habitat by dams nearly a century ago has left little remnant of spring Chinook disposed to spawn in that stream in the gene pool, and brief exposure to the Bull Run is not likely to change the spawning pattern of fish which are instinctively inclined to migrate to the upper basin. *Id.* NMFS also does not take into

account that acclimation is likely to not succeed because of high water temperatures in the Bull Run River relative to the upper Sandy River basin and because of the threat of disease if fish do return in large concentrations. *Id.* ¶¶ 50–51.

NMFS acknowledges that operation of the weirs can have detrimental effects on wild fish due to weir rejection, fallback, handling, and delay, AR 16953–54, but eventually concludes that the weirs pose an “uncertain threat” ostensibly mitigated by Best Management Practices (“BMPs”) and ODFW monitoring. AR 16956, 16961. However, NMFS does not describe what the BMPs are, nor explain or analyze how or whether they will actually mitigate harm to wild spring Chinook. NMFS also ignores *other* significant detrimental effects from the presence of the weirs, such as increased premature spawning and genetic risk from an increased concentration of redds downstream of the structures, and does not factor these issues into its jeopardy conclusion. *See* AR 16961; Third Frissell Decl. ¶¶ 31–43. There is no systematic analysis of past experiences with weirs, no evaluation of whether the reaches below the weirs are good spawning habitat, and no consideration of the likely high incidence of interbreeding between hatchery and wild fish in the concentrated spawning areas below the weirs. *Id.* ¶¶ 37–38, 40, 42. NMFS was aware that the proportion of redds downstream of the weirs increased dramatically after the weirs were first installed in 2011. AR 11927. In the face of the acknowledged and ignored harms that weirs can cause to wild fish, NMFS provides no reasoned explanation for its arbitrary conclusion that weir effects “will occur at levels not meaningfully beyond background levels.” AR 16961.

Similarly, the BiOp is flawed for failing to evaluate whether the weir/traps are actually guaranteed to be effective. Instead, NMFS accepts as true ODFW’s conclusion that weir operation is an effective measure to prevent hatchery fish from spawning naturally. AR 16954. However, despite the presence of the weirs in the Salmon and Zigzag Rivers each for a month in



2011, ODFW still estimated nearly 65% of spring Chinook spawners to be of hatchery origin. AR 31745. NMFS ignores that the weirs are likely not to be effective in preventing hatchery strays from spawning among wild fish. Third Frissell Decl. ¶¶ 29–30. NMFS’ failure to evaluate this data in the BiOp, and its reliance on a guarantee that the weirs will be successful in the BiOp’s no jeopardy conclusion, demonstrates a flaw in the agency’s assumptions about the effects of the weirs, and renders its “no jeopardy” conclusion arbitrary and capricious.

**c. NMFS’s endorsement of a 10% stray rate for spring Chinook, winter steelhead and coho is arbitrary and capricious.**

NMFS failed to evaluate or account for the accumulating harmful genetic introgression effects of a perpetual 10% stray rate on the prospect for survival and recovery of the wild fish populations in the Sandy River. The Sandy River populations are “Primary Populations” with the highest conservation importance, and which are “key to recovering all of the listed species” that inhabit the Sandy River basin. AR 37590 & n.1; AR 2001. The HSRG recommends that the pHOS in segregated programs that influence Primary Populations, such as those in the Sandy River, be maintained at 5% or lower to limit genetic and ecological risks that hatchery fish pose to wild fish, and even “[s]tray rates as low as one to two percent for a large, segregated harvest program may pose unacceptable risks to natural populations.” AR 37578, AR 21266.

Rob Jones, the NMFS official who prepared the BiOp, acknowledged in 2011 that a 5% maximum stray rate was appropriate in segregated programs such as those at the Sandy Hatchery: “if these are Primary [populations] and we are not integrating, then haven’t we been shooting for a 5% pHOS.” In response, another NMFS biologist, Rich Turner, stated his opinion that “[i]n the new program, without natural fish in the broodstock, the low risk criteria allows 10% for two generations and then limits the proportion of hatchery spawners to 5%.” *Id.* It appears that the motivation for selecting a perpetual 10% stray rate was based on wanting to

approve what ODFW felt was feasible in its Recovery Plan, rather than what the best science dictated. *Id.* at 2001 (“Requiring that the programs meet a 5% pHOS would be one approach but it would be more restrictive than the recovery plan goal which is to have pHOS be less than 10%. Do we want to be more restrictive than the recovery plan?”). Yet NMFS approved the programs to be of indefinite duration, with a 10% stray rate, even as the genetic divergence between the hatchery and naturally-spawning fish increases exponentially with each generation. AR 21326 (HSRG statement that “[a]fter several generations of artificial propagation, segregated hatchery broodstocks may pose genetic and ecological risks to naturally spawning populations that are not unlike those imposed by exotic or introduced species”).

Dr. Luikart explains that, because adverse effects from genetic introgression of maladaptive hatchery genes into the wild population quickly accumulate and genetic divergence can occur within one generation, a 10% stray rate will, over time, result in the decline of wild fish populations, rather than result in the recovery of the Sandy River wild fish populations and the LCR species that depend on them. Luikart Decl. ¶¶ 19, 22–24, 28. The reproductive fitness of the first-generation of hatchery fish bred from wild broodstock is only 60% to 80% of wild fish spawning naturally, and two second-generation hatchery fish spawning together have less than 40% of the reproductive success of two wild fish spawning together. *Id.* ¶ 19. Because genetic introgression effects accumulate over time, and given the perpetual 10% stray rate under the HGMPs, productivity of wild fish in the Sandy River is likely to decline rapidly, resulting in a decline in wild fish abundance, rather than recovery of the wild fish populations. *Id.* ¶¶ 22, 28.

NMFS ignored the effect of a 10% stray rate over time in blindly adopting ODFW’s standard from its voluntary, non-binding Recovery Plan. That plan itself does not take into account accumulating genetic introgression over generations, or provide justification for why a

10% stray rate is appropriate for segregated hatchery and wild populations in the Sandy River. NMFS neglects its independent duty under the ESA to evaluate whether the 10% stray rate borrowed from the Recovery Plan will avoid jeopardy to the listed species in the Sandy. An agency must use the best available science to “provide a reasoned and scientifically justified basis for selecting the specific remedial measures chosen.” *Consol. Salmonid Cases*, 713 F. Supp. 2d 1116, 1165, 1168 (E.D. Cal. 2010) (an agency may not “blindly adopt the conclusions of” another to conclusively establish its compliance with substantive legal obligations) (internal quotations omitted). A jeopardy analysis violates the best science requirement where it “entirely ignore[s] relevant factors and admittedly fail[s] to develop projections based on information that was available.” *Greenpeace v. NMFS*, 80 F. Supp. 2d 1137, 1150 (W.D. Wash. 2000).

NMFS also provides no rational basis for its conclusion that a 10% stray rate is protective of wild fish even at the start of the programs. As noted above at 21–22, NMFS does not factor the previous stray rates above 28% for winter steelhead and up to 78% for spring Chinook in the last few years into determining whether a 10% stray rate is appropriate. Luikart Decl. ¶¶ 30–31. NMFS also apparently had no genetic data to support its statement that the hatchery and wild stocks in the Sandy River are genetically similar: NMFS provides no information of the sort that the agency itself says is necessary to assess the question of a proper maximum stray level. *Id.* ¶ 28 (citing BiOp page 46). Given that use of wild broodstock ceased in 2011, the first generation of genetically divergent hatchery fish would begin returning in 2013—the year after the HGMPs were approved—another factor NMFS ignored in setting the 10% stray rate. *Id.* (“NMFS also ignored the fact that any strong similarity that might exist between the hatchery and wild populations will likely be reduced significantly after as little as one generation of returns of hatchery fish that were bred from hatchery parents.”).

NMFS failed to use the best available science and provide a reasoned and scientifically justified basis for departing from its own guidelines and leading scientific sources in adopting its conclusion that a 10% stray rate in perpetuity is appropriate to avoid jeopardy to these listed fish.

**2. The BiOp relies on mitigation that is not reasonably certain to occur.**

Because the ESA is concerned with avoiding jeopardy to threatened and endangered species, mitigation measures designed to avoid jeopardy must be reasonably certain to work for the agency to make a non-arbitrary “no jeopardy” call. Mitigation measures may be included as part of a proposed action and relied upon to support a no jeopardy conclusion only where they involve “specific and binding plans” and “a clear, definite commitment of resources” to implement those measures. *Nat’l Wildlife Fed’n*, 524 F.3d at 935–36 (finding that a mere expression of intent to implement mitigation measures is inadequate absent an enforceable means to effectuate that intent). The Ninth Circuit would not defer even to a “sincere” commitment to future improvements, absent “solid guarantees that they will actually occur.” *Id.* If an agency cannot guarantee mitigation measures, “the proper course is to exclude them from the analysis and only consider those actions that are in fact under agency control or otherwise reasonably certain to occur.” *Id.* at 936 n. 17. Measures supporting a BiOp’s no jeopardy conclusion must be “reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.” *Ctr. for Biol. Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002).

As described above at 17–18, 20, and 23–24, NMFS failed to evaluate the likelihood that planned mitigation, including weirs and acclimation, would actually address the threat—the harm from hatchery fish to the wild populations—in a way that satisfies the obligation to avoid

jeopardy. The BiOp's reliance on the "strict" 10% limit to avoid jeopardy, AR 16958, begs the question whether that limit actually will be met, which is unlikely given the inefficacy of the proposed mitigation and NMFS's lack of analysis as to how or why mitigation might work.

Where there is no guarantee, nor even a reasonable certainty, that proposed adaptive management *will* avoid jeopardy, the agency may not rely on it for a no jeopardy conclusion. *Natural Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 350–57 (E.D. Cal 2007) (invalidating adaptive management plan containing "no quantified objectives or required mitigation measures" and providing no reasonable certainty that mitigation measures would be implemented or adverse impacts mitigated). The Ninth Circuit has held that adaptive management of a potential threat is insufficient without "more specific management responses tied to specific triggering criteria." *Greater Yellowstone Coal., Inc. v. Servheen*, 665 F.3d 1015, 1029 (9th Cir. 2011) (citing *Kempthorne* with approval and requiring the agency to do more than just "invoke adaptive management as an answer to scientific uncertainty").

### **3. NMFS' incidental take statement is unlawful.**

NMFS's ITS is also arbitrary and capricious. While a specific numerical limit is "ideal," an ITS may use ecological conditions or a "combination of numbers and estimates" as a "surrogate" to define the amount or extent of incidental take. *Arizona Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1249–50 (9th Cir. 2001). At bottom, the agency must demonstrate a "causal link"—a "rational connection"—between the surrogate and the taking of species. *Id.* (quoting ESA Consultation Handbook at 4-47 to 4-48). The surrogate must also contain measurable guidelines and provide a "clear standard for determining when the authorized level of take has been exceeded." *Id.* at 1250–51. An ITS is arbitrary and capricious if it is "too vague" or fails to explain "how the level of take will be quantified" in relation to an ecological

condition surrogate. *Ctr. for Biol. Diversity v. BLM*, 422 F. Supp. 2d 1115, 1139-40 (N.D. Cal. 2006); *see also Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 532 (9th Cir. 2010) (voiding an ITS that lacked a meaningful trigger for renewed consultation if take exceeded allowable levels).

In addition, the ESA requires that a federal agency's actions under section 7 must be based on "the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). Courts interpret this "best science" mandate to prohibit federal agencies from "ignor[ing] available biological information." *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988); *see also Sw. Ctr. for Biol. Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000) (the best science requirement "prohibits the Secretary from disregarding available scientific evidence that is in some way better than the evidence he relies on").

Two measures of incidental take violate these legal standards. First, NMFS' BiOp has "blindly adopted" ODFW's conclusion that a perpetual 10% pHOS limit is sufficient to avoid harm to native wild salmonids from interactions with hatchery fish on spawning grounds. AR 16970; *see supra* 26–27. The BiOp suggests a three-year moving average can be used to measure the stray rate but does not explain how NMFS will address a single-year spike in the stray rate. AR 16970, 16974. This aspect of the BiOp and the ITS is arbitrary and capricious.

Second, the surrogate for take from weir operations—"any change greater than 20 percent in spawning distribution above and below the weirs and in pre-spawning mortality from what was measured during previous spawning ground surveys prior to the installation and operation of the weirs in 2011"—is vague and inexplicable. AR 16971. NMFS fails to explain how it derived this number, what it represents, what baseline ODFW will use to measure the change, and thus how the agency will monitor the changes. NMFS also provides no explanation of the causal link to the take it is attempting to measure, and hence this surrogate is arbitrary.

**B. NMFS's Section 4(d) Decision Approving the HGMPs is Unlawful.**

NMFS' approval of the Sandy Hatchery HGMPs under the 4(d) Rule violated NEPA and the ESA as described above. For these reasons, such approval was arbitrary, not in accordance with law, and without observance of procedure required by law, and the Section 4(d) Decision should be set aside. *Boody*, 468 F.3d at 562. In addition, NMFS's Section 4(d) Decision is arbitrary and not in accordance with ESA Section 4(d) because it does not require the hatchery to provide for the recovery of the LCR species that the hatchery adversely affects.

ESA Section 7 requires that NMFS consider both recovery and survival impacts from an action, and insure that the action "is not likely to jeopardize the continued existence of any endangered or threatened species." 16 U.S.C. § 1536(a)(2). Section 7's "no jeopardy" standard does not confer an affirmative obligation to promote the recovery of a listed species on the action agency. *Sw. Ctr. for Biol. Diversity v. U.S. Bureau of Reclamation*, 143 F.3d 515, 523 (9th Cir. 1998) ("[t]he Secretary was not even required to pick the best alternative or the one that would most effectively protect the Flycatcher from jeopardy.").

By contrast, Section 4(d) requires that "protective regulations" under that section be ones that are "necessary and advisable to provide for the conservation of such species." 16 U.S.C. § 1533(d) (emphasis added). "Conservation" is a core purpose of the Act, and is strictly defined as "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary," i.e. to bring about the recovery of the species. 16 U.S.C. § 1532(3). This may include artificial propagation, but only if it contributes to the self-sustainability of the species in the wild such that it may be delisted.

The plain language of Section 4(d) requires that regulations and actions under Section

4(d) must affirmatively “provide for” the recovery of threatened species. 50 C.F.R. § 402.02.

Although the issuance of regulations under Section 4(d) is discretionary, “the regulation ‘shall’ provide for the conservation of such species.” *Defenders of Wildlife v. Tuggle*, 607 F. Supp. 2d 1095, 1116–17 (D. Ariz. 2009); *see Ass’n of Cal. Water Agencies v. Evans*, 386 F.3d 879, 883–84 (9th Cir. 2004) (“shall” in a statute is an obligatory, not discretionary term).

The agency’s affirmative obligation to go beyond the “jeopardy” standard and consider the contribution of the hatchery to recovery is borne out by the 4(d) Rule, which explains that for “some programs involving sectors which have had particularly destructive impacts on habitat or bear other significant responsibility for decline of the species, there must be a demonstration above and beyond ‘not jeopardizing.’” 65 Fed. Reg. at 42,432. A federal agency has a responsibility under ESA Section 7 to not jeopardize, but under Section 4 must also “use its authorities in furtherance of the conservation of the species.” *Id.* Thus, “ESA 4(d) regulations as a whole must provide measures necessary and appropriate to conserve the species.” *Id.* Although “for many actions or programs ‘not jeopardizing’ may be equivalent to not precluding or impairing recovery, for others it may be necessary to include commitments for specific positive contributions that are vital to recovery because of past impacts from those sectors.” *Id.* NMFS has failed to consider whether the HGMPs for the Sandy Hatchery—which unquestionably bears a significant responsibility for the decline of the species’ wild populations—will further the recovery of the species. Luikart Decl. ¶¶ 22, 28 (NMFS’s failure to consider that a perpetual 10% stray rate will lead to the decline, rather than recovery, of wild fish); AR 16567, 16570, 19541 (hatchery remains a major limiting factor preventing recovery of wild fish in Sandy River basin).

Likewise, the 4(d) Rule provides that, for HGMPs, “NMFS may find that it is not necessary or advisable to apply the take prohibition when a plan is designed to minimize and



adequately limit take *and promote species conservation.*” 65 Fed. Reg. 42,439 (emphasis added).

The Hatchery Listing Policy explains that “a hatchery program managed without adequate consideration of its conservation effects” can reduce a species’s reproductive fitness. 70 Fed. Reg. at 37,215. The Section 4(d) Decision, like the EA and BiOp, skirts the issue of recovery, and does not evaluate whether the HGMPs will contribute to the recovery of the affected LCR species. This is not surprising, given that “[h]atchery releases have a significant negative effect on the productivity of wild populations” and that “there is little or no evidence that hatcheries have been effective over the long term at assisting in the recovery of wild populations.” *Cal. State Grange*, 620 F. Supp. 2d at 1158. Also, the non-native summer steelhead program cannot “provide for” recovery because it is not part of a native stock that can be recovered.

Regulations under other subsections of Section 4 reflect the same duty to provide for the recovery of species. The Ninth Circuit found an affirmative obligation that an agency consider the value of critical habitat designated under Section 4(a) “to promote both conservation and survival” of a species. *Gifford Pinchot*, 378 F.3d at 1070. Similarly, under Section 4(f), NMFS “shall” develop recovery plans “for the conservation and survival” of listed species. 16 U.S.C. § 1533(f). Though Section 4’s listing provisions, critical habitat designations, and protective regulations, NMFS “must not merely avoid elimination of that species, but is required to bring the species back from the brink sufficiently to obviate the need for protected status.” *Fed’n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1163 (N.D. Cal. 2000). Despite the express obligation in ESA Section 4 to provide for the recovery of species in protective regulations and actions applying them, NFMS’s Section 4(d) Decision does not evaluate or explain how the Sandy Hatchery’s operations will contribute to the recovery of wild populations and hence to the recovery of the species to which they belong, and for this additional reason is arbitrary,

capricious, and not in accordance with the ESA.

Finally, besides failing to consider whether the HGMPs will provide for the recovery of the listed species, NMFS has also acted contrary to the requirement in Criterion E of Limit 5, which requires that “[t]he HGMP evaluates, minimizes, and accounts for the propagation program’s genetic and ecological effects on natural populations, including disease transfer, competition, predation, and genetic introgression caused by straying of hatchery fish.” 50 C.F.R. § 223.203(b)(5)(E). As explained above, the HGMPs, and NMFS’s decisions and supporting documents reviewing them, do not evaluate or account for the accumulation of genetic introgression over time, nor do the likely ineffective mitigation measures “minimize” the genetic and ecological effects of hatchery fish on wild fish populations.

**C. NMFS has Failed to Reinitiate Formal Consultation.**

NMFS must reinitiate formal consultation “[i]f the amount or extent of taking specified in the incidental take statement is exceeded” or “[i]f new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered.” 50 C.F.R. §§ 402.16(a)-(b). An agency must reinitiate formal consultation on the complete agency action evaluated in the BiOp. *Or. Natural Desert Ass’n v. Tidwell*, 716 F. Supp. 2d 982, 1007 (D. Or. 2010). NMFS has been required to reinitiate consultation as to the entire “action,” its approval of all four HGMPs for the Sandy Hatchery, since at least December 2012.

At the end of 2012, ODFW reported that the spring Chinook stray rate was at least 25%-30% in the tributaries it surveyed. Memo in Support of Motion for TRO/PI, Ex. 3 at 5. Spawning in the sections below the weirs changed in the Zigzag River by over 5,000%, and in the Salmon River by nearly 82%, compared to surveys in 2010 before the weirs went in. *Supra* at 12. These exceed the 10% limit for spawning ground interactions and 20% limit for change in spawning

distribution set in the ITS. AR 16970–71. There is also significant new information: NMFS’s June 2013 voluntary Recovery Plan for LCR species sets the target for spring Chinook hatchery strays in the Sandy River “that would be consistent with long-term recovery goals” at 5%, below the perpetual 10% adopted in the HGMP. Ex. 1 at 2, 7.

There is also significant new information about the hatchery’s effects on winter steelhead. The proportion of hatchery-origin spawners among the naturally spawning populations of winter steelhead was 28.6% in 2010 and at least 27% in 2012. Lewis Decl. ¶ 55 & Table 2; *see* AR 11369. Abundance of wild winter steelhead in the Sandy River population also dropped precipitously, with redd abundance dropping from 879 in 2010 to 208 in 2012, the “lowest on record.” Lewis Decl. ¶ 55 & Table 2; Memo in Support of Motion for TRO/PI, Ex. 3 at 30 (ODFW 2010 winter steelhead redd survey assessment). In addition, ODFW excludes two areas of Cedar Creek where hatchery-bred and wild winter steelhead can spawn together from its monitoring protocols. Lewis Decl. ¶¶ 33, 52. NMFS did not disclose or consider any of this information in its decisionmaking. The serious decline of wild steelhead, the undisclosed high level of hatchery strays, and the unmonitored locales of hatchery-wild interaction, demonstrate that continued operation of the hatchery winter and summer steelhead programs will have effects on wild winter steelhead that NMFS did not anticipate. *See* Third Frissell Decl. ¶¶ 55–57. For these reasons, NMFS was required to, but failed to, reinstate formal consultation.

### **CONCLUSION**

For the reasons stated above, NFS respectfully requests that the Court grant its motion.

Respectfully submitted this 16th day of August 2013.

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