

**The Current Attack on the Salmon Listings:
Alsea Valley Alliance and Its Implications**

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IINTRODUCTION

The district court decision in Alsea Valley Alliance v. Evans, No. 99-6265-HO (D. Or. Sept. 10, 2001), has unleashed tremendous confusion and uncertainty over the fate of the salmon and steelhead listings in the Pacific Northwest. As Jack de Yonge, former Seattle Post Intelligencer reporter, summarized: the “decision reminded me of a cottontail racing through the briars: First this way, then that way, and back around and finally, where in the hell are we?”

The turmoil stemmed, in part, from the delisting remedy ordered by the court, which unraveled the protective scheme for Oregon coast coho salmon with a stroke of a pen. Now that the Ninth Circuit has stayed that order pending final resolution of the appeal, the turmoil should subside and the focus should shift to the deliberate development of a long-term resolution of this controversy.

Over the coming year, the underlying legal ruling will be reviewed, refined, and applied in the courts and the National Marine Fisheries Service (“NMFS”). Because the hatchery populations that may be added to the equation are not self-sustaining in the wild, and because of continuing threats to coho survival, the most likely (and only legally defensible) outcome is the continued listing of wild salmon and steelhead that have previously been found to warrant the protection of the Endangered Species Act (“ESA”). As a result, the Alsea Valley decision, even if upheld on appeal, will produce few, if any, changes in the ultimate protection afforded wild salmon in the region.

Nonetheless, the issues posed in Alsea Valley generate fascinating questions. Can introduced or hybrid species be protected under the ESA? Or, for that matter, could farm fish be part of, or be the reason for denying, a species listing under the ESA? Is a species recovered when it thrives in captivity but not in the wild or in the wild for only a portion of its life cycle?

To understand the nature and implications of the current controversy, it is helpful to review: (1) some basics about hatcheries; (2) the pertinent ESA framework; (3) NMFS’ ESA listing policies for defining Pacific salmon “species” and treatment of hatchery populations; (4) the application of these policies in the Oregon coho listing; and (5) the Alsea Valley litigation. This outline then assesses the potential outcomes of the upcoming judicial and regulatory proceedings, concluding that, when the dust settles, wild salmon will retain ESA protection.

¹ The views presented in this paper are those of the author and not necessarily those of clients represented by Earthjustice in legal proceedings.

I. SOME BASICS ABOUT HATCHERIES

Beginning in the late 1800s, hatcheries came to be seen as the solution to diminishing abundance of salmon stocks from overfishing, dams, and destruction of habitat. Rather than address these causes of declining salmon populations, it was believed that hatcheries would increase the supply through artificial propagation. By 1910, 500,000,000 artificially propagated salmon were being planted in Pacific coastal streams. Hatcheries spread quickly along the Oregon coast as fishing for cannery production depleted wild stocks. See Jim Lichatowich, *Salmon Without Rivers: A History of the Pacific Salmon Crisis* (1999).

Most hatcheries operate to produce fish for commercial and recreational fishing. Some are the product of formal agreements to replace natural production lost to a specific dam or other development. For example, the Cole River Hatchery on the Rogue River was built to mitigate for a dam that blocked access to salmon habitat in the upper river. Other hatcheries in the Oregon coast were established to replace declining native salmon fisheries. None of the hatcheries in the Oregon coast was established or is being operated as a conservation hatchery designed to increase natural production, conserve the last remaining broodstock, or otherwise restore native salmon runs, although hatcheries are being developed elsewhere for these purposes.

Hatchery fish spend their entire early freshwater life in captivity. Salmon hatcheries take, fertilize, and hatch salmon eggs and raise the offspring in captivity in artificial steel and concrete pools where they are susceptible to disease and mechanical failures. Juvenile fish are released into streams and rivers often at a large size that enables them to outcompete their wild cousins. The adult hatchery fish then return to the hatchery at the end of their lives to repeat the cycle of human intervention.

A. Poor Reproductive Track Record

Although not part of the design, some adult hatchery fish stray and spawn naturally. When they stray, their reproductive success is generally inferior compared to wild salmon. For example, in one study conducted on Oregon coast coho, hatchery juvenile coho, “when introduced into wild coho production areas, did not increase the number of returning adults. In addition, the number of naturally produced offspring resulting from the spawning of these adults was lower in locations that had been supplemented with hatchery fish [I]n the second generation, [it] actually reduced the number of juvenile coho produced.” Affidavit of Douglas A. DeHart, Fish Division Director of Oregon Department of Fish and Wildlife ¶ 13 (filed in state court Alsea Valley action) (citing Nickelson *et al.*, Use of hatchery coho salmon presmolts to rebuild wild populations in Oregon coast streams, *Can. J. Fish. Aquat. Sci.* 43:2443-2449 (1986)).

B. Lack of Fitness and Adaptation to Local Environments

Each river and tributary has a discrete strain of fish, adapted through generations of natural selection to the local habitat and environment. The early hatcheries often used salmon eggs from far away rivers. The life histories of the transplanted fish were often out of sync with

their new environment reducing their survival. When wild salmon mated with the transplanted hatchery fish, local adaptations such as resistance to disease were often diluted or lost.

When hatchery-bred fish return as adults and interbreed with wild salmon, they can produce offspring that are less hardy than their purely wild counterparts. For example, native coho salmon in the Nehalem River in Oregon are resistant to a parasite present in that watershed but absent in the nearby Trask River. Coho salmon from the Trask River have little resistance to the parasite. Juvenile coho salmon from the Trask River Hatchery were planted in the Nehalem River, and the surviving hatchery adults accidentally bred with native coho from the resistant Nehalem stock. The offspring were less resistant to the parasite than the wild Nehalem stock. A scientific study confirmed that the interbreeding of the resistant and nonresistant coho salmon reduced the offspring's resistance to the parasite.

Similarly hatchery practices often shift the time of spawning of hatchery salmon so that they return to spawn earlier than their wild counterparts. Nickelson *et al.* (1986) reported that on the Oregon coast hatchery stocks of coho salmon spawned much earlier than the wild coho. Earlier spawning produces hatchery juveniles that are larger than naturally spawned fish. While the larger size may increase the hatchery fish's chances of survival, it also can lead to displacement of the wild fish sharing the same rivers. Another downside of early spawning arises when the adult hatchery salmon return to spawn; their eggs are prone to destruction in the early fall freshets. Early spawning may be a positive trait in the hatchery, but it can prove deadly in the wild. Declaration of Jim Lichatowich (Oct. 1, 2001) (member of several independent scientific review bodies convened to assess needs of wild salmon) (filed in Alsea Valley).

C. Ecological Risks Posed by Hatchery Fish

Ecological risks result when an influx of hatchery fish pushes the stream to or over its carrying capacity, the maximum number of fish that the stream can support. As hatcheries infuse a river with large numbers of juvenile salmon, the hatchery fish compete for food with the wild fish migrating at the same time. Because of their larger size, hatchery fish often win the competition and force the wild fish into marginal habitat with low survival potential. Declaration of Jim Lichatowich (Oct. 1, 2001) (filed in Alsea Valley).

D. Catastrophic Losses from Hatchery Mortalities

Hatchery fish spend their early lives in crowded conditions where disease can run rampant. In addition, hatcheries are prone to mechanical failures, such as pump breakdowns, which produce catastrophic losses of hatchery fish. On a longer time frame, hatcheries are not built to last forever and are subject to closures as facilities age, budgets tighten, or political priorities and hatchery management practices shift.

E. Fishing Pressures

Intensive fishing of hatchery populations has often taken its toll on wild salmon. Where the fishery captures fish from a mixture of hatchery and wild stocks, overharvest of the wild stocks often results. Declaration of Jim Lichatowich (Oct. 1, 2001) (filed in Alsea Valley).

II. THE PERTINENT ESA FRAMEWORK

A. The ESA Protects Species in Their Natural Environments.

The ESA explicitly spells out as among its core purposes “to provide a means whereby ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b). As the Senate Report explained, “many [imperiled species] perform vital biological services to maintain a ‘balance of nature’ within their environments.” S. Rep. No. 307, 93d Cong., 1st Sess. 2 (1973). The House of Representatives underscored the need to conserve threatened and endangered species because of “the critical nature of the interrelationships of plants and animals between themselves and with their environment.” H.R. Rep. No. 412, 93d Cong., 1st Sess. (1973).

In addition to protection of species in their natural environments, the ESA’s legislative history emphasized the importance of safeguarding genetic diversity. The House Report on the original version of the ESA in 1973 stressed:

From the most narrow possible point of view it is in the best interests of mankind to minimize the losses of genetic variations. The reason is simple: they are potential resources. They are keys to puzzles which we cannot yet solve and may provide answers to questions which we have not yet learned to ask.

H.R. Rep. No. 412, 93d Cong. 1st Sess. 5 (1973); *id.* at 4-5 (“the value of this genetic heritage is, quite literally, incalculable”).

Under Section 7 of the ESA, federal agencies must ensure that their actions will not “jeopardize the continued existence of any endangered species or threatened species” 16 U.S.C. § 1536(a)(2). Implementing regulations issued jointly by NMFS and the Fish and Wildlife Service define the phrase “jeopardize the continued existence” to mean “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” 50 C.F.R. § 402.02 (emphasis added). In 1982, Congress expressly endorsed this regulation by incorporating this language into the jeopardy criteria for the Services’ approval of habitat conservation plans and issuance of incidental take permits. 16 U.S.C. § 1539(a)(2)(B)(iv).

B. The ESA’s “Species” Definitions

The ESA’s “species” definitions support a flexible configuration of species to afford them the protection that they need to survive and recover. Two phrases, “distinct population segment” and “in danger of extinction throughout all or a significant portion of its range,” are relevant to the treatment of hatchery populations.

1. *“Distinct population segment”*

The ESA defines “species” to include “any subspecies” and “any distinct population segment of any species” 16 U.S.C. § 1532(16). The original ESA defined species to include “smaller taxa in common spatial arrangement that interbreed when mature.” Pub. L. No.

93-205, § 3(11), 87 Stat. 884 (1973). In 1978, Congress substituted the current phrase, “distinct population segment.” H.R. Conf. Rep. No. 1804, 95th Cong., 2d Sess. 2 (1978). During the House floor debate, Representative Duncan of Oregon offered a biological definition of species: “a group of fish, wildlife, or plants, consisting of physically similar organisms capable of interbreeding but generally incapable of producing fertile offspring through breeding with organisms outside this group.” Legislative History of the ESA of 1973, as amended in 1976, 1977, 1978, 1979 & 1980, 97th Cong., 2d Sess. at 881 (Serial No. 97-6, 1982). The final 1978 amendments rejected this species definition in lieu of the broader definition in the Act today.

The Act contains no definition of “distinct population segment.” Nor is that phrase a scientifically used term. Commentators have called the ESA’s definition of species “singularly uninformative” and “a list masquerading as a definition.” Doremus, “Listing Decisions Under the ESA: Why Better Science Isn’t Always Better Policy,” 75 Wash. U.L.Q. 1029, 1089 (1997).

In construing the ESA’s species definition, the agencies and courts have often looked to a subsequent congressional report explaining its rejection of an amendment proposed by the General Accounting Office that would have prevented listings of geographically limited populations of vertebrates. A draft GAO report had speculated that the existing definition “could result in the listing of squirrels in a specific city park, even though there is an abundance of squirrels in other parks in the same city or elsewhere in the country.” S. Rep. No. 96-151, 96th Cong., 1st Sess. 7 (1979). The Fish and Wildlife Service and NMFS opposed this change believing it would “severely limit their ability to require the appropriate level of protection for a species based on its actual biological status.” *Id.* Rejecting the amendment, the Senate Report explains:

The committee agrees that there may be instances in which FWS should provide for different levels of protection for populations of the same species. For instance, the U.S. population of an animal should not necessarily be permitted to become extinct simply because the animal is more abundant elsewhere in the world. Similarly, listing populations may be necessary when the preponderance of the evidence indicates that a species faces a widespread threat, but conclusive data is available with regard to only certain populations.

Nonetheless, the committee is aware of the great potential for abuse of this authority and expects the FWS to use this authority to list populations sparingly and only when the biological evidence indicates such action is warranted.

Id.

In 1996, NMFS and the Fish and Wildlife Service adopted a joint policy interpreting the phrase distinct population segment.² Under the joint distinct population segment policy, the

² The policy echoes that the term “is not commonly used in scientific discourse,” but notes that “‘population’ is an important term in a variety of contexts. For instance, a population may be circumscribed by a set of experimental conditions, or it may approximate an ideal natural group of organisms with approximately equal breeding opportunities among its members, or it may

agencies would identify distinct population segments based on the population's: (1) discreteness, *i.e.*, whether "it is markedly separate from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors"; and (2) significance, which may be shown by its persistence in a unique ecological setting, the gap that would result from its loss, its survival as the only natural occurrence of a taxon introduced elsewhere, or marked differences in genetic characteristics. 61 Fed. Reg. 4722 (Feb. 7, 1996).

2. *"In danger of extinction throughout all or a significant portion of its range"*

The ESA defines "endangered species" as any species that is "in danger of extinction throughout all or a significant portion of its range," 16 U.S.C. § 1532(6), and "threatened species" as "any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range." *Id.* § 1532(20). Since "species" is defined to include "any distinct population segment," the definition of endangered species extends to any distinct population segment that is in danger of extinction throughout all or a significant portion of its range and threatened species includes any distinct population segment likely to become endangered throughout all or a significant portion of its range.

While the Services often have afforded protection to a portion of a species by characterizing it as a distinct population segment, nothing in the statute requires that this be the sole mechanism for a listing based on targeted threats to the species. Indeed, the "significant portion of its range" language was included in the 1973 ESA, while the distinct population segment concept was added in 1978, underscoring that each carries its own independent meaning.

C. Hatcheries Are Designated as a Conservation Tool Under the ESA.

The ESA's species definitions are silent with respect to hatcheries. Artificial propagation surfaces in the ESA not in the definition of "species," but rather as a tool that can be used to conserve listed species. The ESA defines "conservation" 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 [the ESA] are no longer necessary." 16 U.S.C. § 1532(3). Moreover, the definition goes on to list propagation, along with live trapping and transplantation, among the authorized conservation methods and procedures. *Id.*

Other ESA provisions carving out exceptions to the ESA's prohibitions reinforce the use of artificial propagation for conservation. For example, Section 10(a) authorizes the Secretary of Commerce to issue permits allowing the take of listed species "to enhance the propagation" of the species, which can be used to exempt the killing of salmon for their eggs from the ESA's take prohibition. In addition, Section 10(j) allows the Secretary to authorize the release of propagated experimental populations and to determine the ESA treatment given to such populations and their offspring.

refer to a loosely bounded, regionally distributed collection of organisms. In all cases, the organisms in a population are members of a single species or lesser taxon." 61 Fed. Reg. 4,722.

III. NMFS' LISTING POLICIES SPECIFIC TO PACIFIC SALMON

A. The ESU Policy

In 1991, NMFS adopted its “evolutionarily significant unit” or “ESU” policy. Policy on Applying the Definition of Species under the ESA to Pacific Salmon, 56 Fed. Reg. 58,612 (Nov. 20, 1991). NMFS has described the ESU policy as a detailed extension of the distinct population segment policy formulated specifically to address salmon biology. 61 Fed. Reg. 4722 (1996).

Under the ESU policy, two criteria must be satisfied for a stock of Pacific salmon to be considered a distinct population, called an ESU:

- (1) It must be substantially reproductively isolated from other conspecific population units; and
- (2) It must represent an important component of the evolutionary legacy of the species.

56 Fed. Reg. 58,612, 58,618 (1991). For the first criterion, reproductive isolation need not be absolute, but it “must be strong enough to permit evolutionarily important differences to accrue in different population units.” *Id.* The policy further provides:

The second criterion would be met if the population contributed substantially to the ecological/genetic diversity of the species as a whole. In other words, if this population became extinct, would this event represent a significant loss to the ecological/genetic diversity of the species? In making this determination, the following questions are relevant:

1. Is the population genetically distinct from other conspecific populations?
2. Does the population occupy unusual or distinctive habitat?
3. Does the population show evidence of unusual or distinctive adaptation to its environment?

B. NMFS Bases Listing Determinations on Wild Populations

A common thread runs through NMFS policies on making listing determinations for Pacific salmon and steelhead: listing determinations are made based solely on the status of the wild stocks. NMFS defines the ESUs and assesses viability by focusing on the naturally spawning salmon populations.

NMFS explained the basis for this approach in its hatchery policy (discussed below), drawing from the ESA’s goal of protecting species in their natural environment:

The ESA, thus, mandates the restoration of threatened and endangered species in their natural habitats to a level at which they can sustain themselves without further legal protection. For Pacific salmon (*Oncorhynchus*), the ESA’s focus is,

therefore, on natural populations – the progeny of naturally spawning fish – and the ecosystems upon which they depend.

58 Fed. Reg. at 17,573; see also id. (“The evaluation of the species’ status for listing or delisting under the ESA depends on natural populations, which for Pacific salmon are defined as the progeny of naturally reproducing fish”).

C. The 1993 Hatchery Policy

In the early 1990s, NMFS produced a technical paper and issued an interim policy on Pacific salmon and artificial propagation under the ESA. Both the technical paper and the policy reviewed the role that hatchery fish play. 58 Fed. Reg. 17,573, 17,574 (1993). In the hatchery policy, NMFS found that hatchery populations diminish genetic diversity, reduce the fitness of salmon populations to survive in their native streams, and harm wild salmon by competing for territory and mates and by spreading disease. Id. at 17,574. Ultimately, NMFS concluded that “[t]hese genetic and ecological risks of artificial propagation can pose serious threats to natural salmon populations.” Id.

The hatchery policy prescribes how hatchery populations should be treated in listing determinations. The hatchery policy reiterates that NMFS will define the ESU based on wild salmon and determine whether naturally spawning salmon in that ESU are threatened or endangered. Id. at 17,573. The policy then establishes a two-part process for deciding whether to list hatchery populations that are introduced into the area covered by the ESU.

First, NMFS must determine whether the hatchery populations should be included in the ESU. Second, NMFS will determine whether to list the populations based on whether they are essential to the ESU’s recovery.

In deciding whether the hatchery populations should be included in the ESU, the policy focuses on existing hatchery populations. Under the policy, hatchery populations should not be included in the ESU if (1) the hatchery population is of a different genetic lineage than the natural populations; (2) artificial propagation has produced appreciable changes in genetically based characteristics of the hatchery fish; or (3) substantial uncertainty exists as to the relationship between the hatchery fish and the natural fish. Id. at 17,575.

For hatchery populations that have been included in the ESU under these factors, NMFS then decides whether the populations should be listed along with the natural populations. Generally the hatchery fish will not be listed unless NMFS determines that the hatchery fish are “essential for recovery” of the natural populations: “This situation might occur if the natural population faces a high, short-term risk of extinction, or if the hatchery population is believed to contain a substantial portion of the genetic diversity remaining in the species. In such cases, the existing hatchery population should be included as part of the listed species, and would be protected under the ESA.” Id.

Regardless of whether the listing encompasses hatchery populations, all progeny of naturally spawning fish receive listing protection: “Under any scenario, progeny of fish from the

listed species that are propagated artificially are considered part of the listed species and are protected under the ESA.” Id.

The hatchery policy goes on to address the circumstances in which hatcheries may be appropriately used to promote recovery and safeguards that should be incorporated into hatchery programs to protect wild salmon. Of note, hatcheries “should not be seen as a substitute for resolving the basic problems that brought the species to the point at which it required ESA protection.” Id.

IV. THE OREGON COAST COHO SALMON LISTING

A. The Listing Determination

In response to several petitions to list coho salmon, NMFS initiated a west coast review of coho salmon. NMFS established a biological review team (“BRT”) to conduct the review. To identify coho ESUs along the west coast, the BRT examined genetic, life history, and physical environmental information. Ultimately, NMFS identified six ESUs, including the Oregon coast ESU, based on the BRT’s analysis.

NMFS (and the BRT before it) then assessed the statutory listing factors. The Act directs NMFS to determine whether a species warrants listing based on any one of five enumerated factors using the best available scientific information. 16 U.S.C. § 1533(a)(1) and (b)(1)(A). The statutory listing factors are:

- (A) the present or threatened destruction, modification, curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(a)(1).

NMFS concluded that Oregon coast coho are in decline because of all the statutory factors. 62 Fed. Reg. at 24,592 (attributing decline to “several longstanding, human-induced factors (*e.g.*, habitat degradation, harvest, water diversions, and artificial propagation) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods, and poor ocean conditions”). Accordingly, it proposed to list this ESU in 1995.

NMFS withdrew the proposed listing in 1997 based on the predicted effects of future and voluntary conservation measures envisioned under the newly adopted Oregon Coastal Salmon Restoration Initiative. NMFS had not changed its assessment of the species’ status or its conclusion that listing would be warranted in the absence of the changes envisioned in the initiative. In a challenge to the decision not to list, a district court held that NMFS could not refuse to list a species based on the hope that improved regulations and voluntary measures would constrain habitat degradation in the future. ONRC v. Daley, 6 F. Supp.2d 1139, 1151-55

(D. Or. 1998). NMFS then listed Oregon coast coho, reiterating its findings that such a listing is warranted under the statutory listing factors.

B. NMFS' Assessment of Oregon Coast Coho Hatchery Populations

1. *The Listing Findings Concerning the Risks Posed by Hatchery Populations to Wild Coho*

The proposed and final Oregon coast coho listing, as well as the coho status review, identified “negative effects of artificial propagation programs” as a factor contributing to the species decline. 60 Fed. Reg. 38,011, 38,019 (July 25, 1995); see also id. at 38,024 (identifying artificial propagation as one of the longstanding, human-induced conditions contributing to the present, depressed population conditions); 63 Fed. Reg. 42,587, 42,588 (Aug. 10, 1998) (same); Coho Status Review, Executive Summary at vii (Oregon coastal coho salmon are likely to become endangered in the future based, in part, on “widespread hatchery production of coho salmon”). NMFS explained: “The heavy hatchery influence on many rivers within this ESU is a cause for concern about the sustainability of natural production in these systems.” 60 Fed. Reg. at 38,021; Coho Status Review at 98-100.

NMFS elaborated on the adverse impacts of hatchery production: “Potential problems associated with hatchery programs include genetic impacts on indigenous, naturally-reproducing populations (see Waples 1991), disease transmission, predation on wild fish, difficulty in determination of wild run status due to incomplete marking of hatchery releases, and replacement (rather than supplementation) of wild stocks through competition and continued annual introductions of hatchery fish.” 60 Fed. Reg. at 38,025.

NMFS explained that hatcheries have reduced the genetic diversity and fitness of wild populations by, for example, favoring early-spawning adults. However, fry from the early spawning hatchery fish tend to displace fry of later-spawning wild fish, and salmon eggs from early-spawning salmon are more prone to destruction during early fall floods than salmon eggs of later-spawning fish. For these reasons, NMFS concluded that early-spawning hatchery fish “may be unable to establish permanent, self-sustaining populations but may nevertheless adversely affect existing natural populations.” 62 Fed. Reg. at 24,600. Because “genetic diversity among salmon populations helps to buffer overall productivity against periodic or unpredictable changes in the environment,” the loss of diversity due to interbreeding between hatchery and wild fish can significantly reduce a population’s ability to survive. Coho Status Review at 100.

NMFS also emphasized that release of large numbers of hatchery fish into habitat already occupied by wild fish causes competition and often forces the wild fish into marginal habitats with low survival potential. 62 Fed. Reg. at 24,600. Hatchery fish may interfere with natural production by increasing competition for mates. Coho Status Review at 100. In addition, hatchery fish are more susceptible to disease than wild fish. 62 Fed. Reg. at 24,594. Interbreeding between wild and hatchery fish can increase overall susceptibility to disease.

2. *NMFS' Assessment of Whether to Include Hatchery Populations in the Oregon Coast Coho Listing*

To assess whether the 13 hatchery populations along the Oregon coast should be included in the ESU, the BRT considered the stock histories and broodstock collection methods used for the existing hatchery populations. More particularly, the BRT sought to ascertain the extent to which each hatchery used broodstock from within the ESU and/or from wild fish, as well as the length of time the hatchery has been in operation.

NMFS ultimately concluded that four of the hatchery populations (Fall Creek, Siletz River, Trask River, and North Fork Nehalem) should be excluded from the ESU, while the other nine hatchery populations were included in the ESU.

Turning to the recovery issue, NMFS found none of the hatchery populations essential for recovery at the present time. Accordingly, it included none of the hatchery populations in the Oregon coast coho listing.

V. THE ALSEA VALLEY CASE

A. The Original Attempt to Stop the Closure of the Fall Creek Hatchery

The Alsea Valley case began as a challenge to the closure of the Fall Creek Hatchery. The Fall Creek Hatchery had produced coho since the early 1950s for commercial and sports fishing. By the late 1990s, less than one percent of the hatchery run was returning to the basin as adults. Because the program was ineffective in terms of costs and returns, and it was found to be a significant factor contributing to the decline of wild coho in the basin, the Oregon Department of Fish and Wildlife (“ODFW”) decided to close the hatchery in 1997. The last release of coho juveniles occurred that year. Hatchery fish returning to the Fall Creek Hatchery in 1998 and 1999 were killed and the fish either sold to processors (with the revenue supporting future hatchery programs) or placed in streams for nutrient enrichment in the basin.
<http://www.dfw.state.or.us/ODFWhtml/InfoCntrfish/hatchery/facts.htm>.

The Fall Creek Hatchery became a cause celebre when a videotape captured the clubbing of the returning hatchery fish in 1999. (ODFW stresses that hatchery fish not used for broodstock are likewise killed and that a sharp blow to the head is the most humane method of killing fish).

Alsea Valley Alliance first went to state court, seeking a preliminary injunction that would have required ODFW to allow the remaining hatchery fish to stay in the river and interbreed with the wild run. Judge Robert J. Huckleberry of the Lincoln County Circuit Court denied the motion. Alsea Valley Alliance then went to federal court seeking the same relief in the form of a temporary restraining order, which that court denied.

B. The Subsequent Challenge to the Oregon Coast Coho Listing

1. *The nature of the ultimate legal challenge*

Alsea Valley Alliance then amended its complaint to challenge the ESU and hatchery policies on their face and the application of those policies in the Oregon coast coho listing. Notably, the Fall Creek Hatchery coho were one of the four hatchery populations excluded from the Oregon coast coho ESU. Accordingly, the legal argument that ultimately carried the day for Alsea Valley Alliance would have no impact on its initial attempt to compel ODFW to allow the Fall Creek hatchery fish to spawn.

Alsea Valley Alliance presented its challenge in moralist overtones:

NMFS interprets the ESA to protect a certain population of coho salmon not upon whether the population is the same species, but instead based upon the parentage or the method of spawning, or, worse, upon NMFS' arbitrary ideas of which particular coho bloodlines should exist for procreation, and which should be aborted. Indeed, to imply that the two terms have a genetic significance would be analogous to claiming that a fetus conceived through in-vitro fertilization is a different species than a fetus conceived naturally.

Plaintiffs' Memorandum in Support of Motion for Summary Judgment at 6 (Dec. 14, 2000).

Moralistic underpinnings aside, the case sought to eliminate constraints imposed by the listing based on the theory that plentiful hatchery populations should suffice:

[The government's hatchery policy is] skewing resources away from the salmon populations most in need of help, and toward many plentiful populations needing less attention. Too often, the policy has led to massive restrictions on land management activities, with huge and largely ignored social and economic costs, under the guise of protecting habitat for 'wild' salmon while ignoring thriving hatchery salmon.

Appellees' Response to Appellants' Emergency Motion for a Stay Pending Appeal at 20 (Nov. 26, 2001).

2. *The district court ruling*

In an order issued September 10, 2001, the district court resolved cross-motions for summary judgment on the issues raised in the amended complaint. While the facial challenges to the ESU and hatchery policies were barred by the six-year statute of limitations, the court heard the plaintiffs' challenge to NMFS' utilization of these policies in the Oregon coast coho listing.

With respect to the ESU issue, plaintiffs argued that NMFS acted illegally by aggregating coho populations from numerous river basins to comprise one distinct population segment because salmon populations from specific river basins generally do not interbreed with salmon from other basins. The court rejected this claim, holding that "[t]he NMFS interpretation of what

constitutes a ‘distinct population segment’ is a permissible agency construction of the ESA Specifically, the NMFS creation of an ESU and the factors used to define it, geography and genetics, are within permissible limits under the ESA.” Opinion at 15.

Turning to the hatchery issue, based solely on the ESA definition of “species” to include subspecies and “any distinct population segment . . . which interbreeds when mature,” 16 U.S.C. § 1532(16), the court held that “[l]isting distinctions below that of subspecies or a DPS of a species are not allowed under the ESA.” Opinion at 16. Instead, according to the court, “NMFS may consider listing only an entire species, subspecies or distinct population segment Once NMFS determined that hatchery spawned coho and naturally spawned coho were part of the same DPS/ESU, the listing decision should have been made without further distinctions between members of the same DPS/ESU.” Opinion at 17 (emphasis in original).

Nothing in the district court opinion indicates whether a listing will be warranted when NMFS applies the new legal interpretation on remand. The court never scrutinized NMFS’ scientific findings that the hatchery populations pose genetic and ecological threats to the wild salmon. Rather, the case turned on a purely legal question: does the ESA permit NMFS to list only wild salmon populations when it has characterized certain hatchery populations as part of the same ESU as the wild fish? In the court’s view, because NMFS had explicitly found that 9 of the 13 hatchery populations should be included in the Oregon coast coho salmon ESU, it had tied its own hands and must list that unit on an all-or-nothing basis. Notably, however, the court’s opinion holds out the possibility that NMFS could have defined hatchery populations as a separate distinct population segment in which case it could have listed only the wild salmon. Opinion at 17.

C. Intervention of Conservation and Fishing Groups to Appeal

Shortly after the district court issued its decision, eight conservation and fishing organizations (Oregon Natural Resources Council, Pacific Rivers Council, Pacific Coast Federation of Fishermen’s Associations, Institute for Fisheries Resources, Audubon Society of Portland, Coast Range Association, Siskiyou Regional Education Project, and Sierra Club, collectively referred to as “ONRC”) represented by Earthjustice Legal Defense Fund filed a motion seeking to intervene for purposes of appeal. By order entered on November 16, 2001, the district court granted ONRC intervention to appeal, relying on well-established Ninth Circuit precedent on timeliness of post-judgment motions to intervene for purposes of appeal and finding that the government no longer adequately represented ONRC’s interests in light of its decision not to appeal. Alsea Valley Alliance is appealing the decision granting intervention to appeal.

ONRC is appealing the district court decision on two grounds: (1) that the district court erroneously concluded that the ESA prohibits a listing of coho salmon that excludes the hatchery fish under the facts presented in this case; and (2) that given the plight of Oregon coast coho salmon, the district court should not have set the listing aside but rather should have kept the listing in place during remand to reconsider the listing decision.

D. Stay of the District Court Delisting Order

ONRC filed a motion for an emergency stay of the district court's delisting order, which the court of appeals granted on December 14, 2001. The Oregon coast coho listing will remain in effect until the Ninth Circuit appeal is finally resolved.

VI. NMFS REVIEW OF THE HATCHERY POLICY AND LISTING DECISIONS

On November 9, 2001, NMFS announced that it would not appeal the Alsea Valley decision to the Ninth Circuit. Instead, NMFS has released its "Hatchery Salmon ESA Listing Review Action Plan," promising development of a new hatchery policy through notice and comment rulemaking, and application of that policy to 24 salmon and steelhead listings.

The hatchery policy rulemaking is scheduled to begin in February 2002, with a proposed hatchery policy, followed by a 60-day public comment and public hearing period. NMFS plans to publish a final hatchery policy by September 2002. This process will address "how the ESA should be applied to those salmon populations that include fish reared in hatcheries."

NMFS has announced that it will propose listing determinations for the 24 potentially affected salmon and steelhead listings, including Oregon coast coho salmon, within 45 days of finalizing its new hatchery policy, producing listing decisions in December 2002. The Northwest Fisheries Science Center will update its information on the status of the various listed salmon and steelhead to be ready to apply the final hatchery policy in the fall of 2002.

NMFS' action plan concludes that "it is vital that the region's efforts to protect and rebuild these populations, which are beginning to show signs of success, be continued to assure a full recovery of healthy salmon and steelhead runs." NMFS Exhibit C at 1. Accordingly,

Except for the Oregon coast coho, where the Court ordered delisting, no other salmon or steelhead populations will be delisted at this time. The current protections of the Endangered Species Act will continue in force until appropriate standards are developed and the status of each listed population has been reviewed under the new standards

Id. (The Ninth Circuit grant of a stay retains ESA protection for the Oregon coast coho as well).

The Alsea Valley decision spurred a flurry of delisting petitions and 60-day notices threatening to bring look-alike cases against other salmon and steelhead listings. The attached chart identifies the listings targeted by the various petitions and notices. Since NMFS is applying the Alsea Valley decision to develop a new hatchery policy and revisit the potentially affected listings, litigation is unnecessary to achieve this goal. Should litigation nonetheless follow, it is unlikely that a court will order a delisting, even if it agrees with the legal holding in Alsea Valley, given that new agency policies and listing determinations will apply to that legal ruling and will soon supersede the challenged policy and listing determinations and that the Ninth Circuit granted a stay of the Oregon coho delisting order.

VII. POTENTIAL OUTCOMES

Alsea Valley has propelled a series of questions concerning listing of wild salmon and the role of hatchery fish to the forefront. An interplay of judicial and administrative proceedings will forge a resolution. While there are various scenarios, the bottom line is that wild salmon warrant protection under the ESA. This outline reviews the options, but explains why the end result will be close to, if not the same as, the status quo.

A. The District Court Decision Could be Overturned on Appeal.³

The district court based its decision on a narrow reading of the ESA's species definitions and the listing section which provides for promulgation of regulations that "determine whether any species is an endangered species or threatened species" because of the statutory listing factors. 16 U.S.C. § 1533(a)(1). The Ninth Circuit may well disagree with the conclusion that all or none of a species may be listed, drawing from three features of the Act.

First, Congress unquestionably intended for the ESA to protect fish and wildlife in their natural environments and to recover populations so that they could be self-sustaining without human intervention. Mandating the inclusion of hatchery fish in an ESA listing runs counter to the ESA goal of protecting species in their natural environments. The district court's interpretation could lead to the anomaly of predicating ESA listing decisions on the well-being of populations that can survive only through human intervention and can never achieve recovery within the meaning of the ESA. This result cannot be reconciled with the ESA's purpose and jeopardy provisions, particularly when it would impede the ability of coho salmon to survive in their natural environment.

Second, the courts have construed the ESA's species definitions in a flexible manner to afford the species the protection they need. For example, in Southwest Center for Biological Diversity v. Babbitt, 926 F. Supp. 920, 924 (D. Ariz. 1996), the district court concluded that the term "distinct population segment" "allows different management practices to ensure the appropriate level of protection for a species based on its actual biological status," drawing from a series of split listings, such as the listings of the Louisiana black bear and the bald eagle, in which only one portion of a species was accorded listing protection. See also Southwest Center for Biological Diversity v. Babbitt, 980 F. Supp. 1080, 1085 (D. Ariz. 1997) (construing "distinct population segment" to afford "the flexibility to protect a portion of a species according to that portion's conservation status"). Similarly, a recent Ninth Circuit decision construed the phrase throughout "a significant portion of its range," holding that it allows the Services flexibility to list populations that are imperiled even where genetically similar populations may be thriving. Defenders of Wildlife v. Norton, 258 F.3d 1136 at 9665 (9th Cir. 2001). From the ESA's legislative history, the court drew the example of the American alligator, which was on the brink

³ The appeal also challenges the delisting remedy. With a stay in place during the Ninth Circuit appeal, the remedy question will have a practical effect only if the Ninth Circuit affirms on the merits. ONRC will argue, as it did in seeking the stay, that the balance of equities and the ESA's decision to afford imperiled species the highest priority favor leaving the listing in place during remand proceedings. In addition, the most likely outcome of a remand is continued ESA protection for wild coho salmon, as set forth below in the text.

of extinction in Florida, but thriving in Louisiana. *Id.* at 1144-45. In *Defenders of Wildlife*, the Fish and Wildlife Service had identified serious threats to the flat-tailed horned lizard on private lands, but fewer impacts on public lands as a result of recently improved management of such lands. The Fish and Wildlife Service erred by failing to consider whether the private lands constitute a significant portion of the lizard's range and whether the lizard warranted protection because of the threats posed on private lands, quite apart from conditions on public lands. *Id.* at 1146-47.

Third, the Act expressly identifies and regulates artificial propagation as a conservation measure without suggesting a role for artificially propagated animals in listing decisions. 16 U.S.C. § 1532(3). Nothing in the Act envisions accounting for artificially propagated animals in a listing decision, although if hatchery populations have contributed to the decline of wild salmon, a listing would be warranted under the statutory listing factors. Under the ESA's conservation provisions, NMFS could, after making the listing decision, carve out appropriate protections for hatcheries that are essential for conserving, *i.e.*, leading to the recovery, of listed salmon. This is the model incorporated into the ESA's experimental population provisions, which allow NMFS and the Fish and Wildlife Service to spell out the precise ESA protections that will apply to experimental populations. 16 U.S.C. § 1539(j)(2)(C).

Two analogies may help in framing the inquiry. First, consider farm fish that are comprised of the same broodstock as wild salmon. Should an ESA listing be required to consider and include the farm fish that spend their entire lives in net pens because they may be genetically similar to the wild salmon? If a technical lumping together of farm and wild fish required such a result, it would surely defy the ESA's purpose of protecting fish and wildlife in their natural environments.

Another analogy is provided by the legislative history rejecting an amendment to the ESA's species definition. As stated above, in 1978, Congress rejected an amendment that would have restricted the definition of species to organisms that interbreed "but generally are incapable of producing fertile offspring through breeding with organisms outside this group." Cong. Research Service, *A Legislative History of the ESA of 1973, as amended in 1976, 1977, 1978, 1979, and 1980*, Serial No. 97-6, 97th Cong., 2d Sess. 881-82 (1982). In a floor debate on this amendment, Representative Dingell chastised the amendment, providing the following example:

I would point out that two distinct species may have not only physical similarity so as to fall into the provision but may also produce fertile offspring when crossed, such as the buffalo and a cow. The provisions of the amendment . . . would say that if a buffalo and a cow occupy the same physical habitat that because they can produce fertile offspring they are catalogued as the same species. So if the buffalo is really approaching extinction and there are cows occupying the same range, the protections of the statute will not apply to the buffalo.

It appears that Congress did not have fish-production hatcheries in mind when it crafted the ESA's species definitions and conservation provisions. However, Congress eschewed rigid species definitions and envisioned the use of artificial propagation to recover listed wild species.

The Ninth Circuit could reverse on the ground that a rigid all-or-nothing listing rule runs counter to the statutory purposes and scheme. Such a ruling would obviously preserve the status quo.

B. NMFS May Split Wild and Hatchery Populations Into Separate ESUs or DPSs in its New Hatchery Policy and Listing Determinations.

1. *Splitting the ESU/DPS.*

The Alsea Valley decision arose because of how NMFS defined the ESU. NMFS included hatchery fish in the ESU and, under the legal ruling in Alsea Valley, it must list all or none of the ESU it identified for listing purposes. If NMFS had instead split the wild and hatchery populations into two separate ESUs, it could list only the wild ESU under the narrow legal ruling in Alsea Valley.

The Alsea Valley decision leaves NMFS free to redefine the ESU to exclude hatchery fish. The district court recognized this possibility in Alsea Valley. Opinion at 17. The Governor of Oregon has asked NMFS to redefine the Oregon coast coho ESU to exclude the hatchery fish because of the harm hatchery fish pose to wild salmon and their habitat. Letter from Gov. Kitzhaber to Secretary of Commerce Evans (Sept. 2001). On December 19, 2001, Trout Unlimited, joined by 13 other fishing and conservation organizations, urged NMFS to take this approach in crafting its new hatchery policy. Letter to Regional Administrator D. Robert Lohn from Trout Unlimited (Dec. 19, 2001) (attaching draft petition to list Oregon coast coho salmon).

In its new hatchery policy, NMFS could split wild and hatchery fish into separate ESUs based on their divergences in their life histories, reproductive, physiologic, and physical environments. A split ESU would be consistent with the ESU policy. First, hatchery fish are substantially reproductively isolated since most hatchery fish do not spawn in the wild. See 56 Fed. Reg. at 58,618 (ESU must be substantially reproductively isolated). Even those hatchery fish that stray are distinct from wild salmon because of their poor reproductive performance. See id. (noting that reproductive isolation need not be absolute, but need only be strong enough to give rise to important differences). Second, hatchery fish represent a different evolutionary legacy than their wild cousins because they have been bred for traits that increase survival in the hatchery but impede their ability to survive in the wild. See id. (ESU must represent an important evolutionary legacy of the species). Hatchery fish show evidence, for example, of early run timing, impaired reproductive functioning, and susceptibility to disease, which distinguishes them from wild salmon adapted to their native streams.

Splitting hatchery fish into a separate listing unit is also consistent with the distinct population segment policy. First, hatchery populations are discrete or markedly separate from wild salmon based on their behavioral, reproductive, and run-timing differences, as well as their susceptibility to disease and competition with wild salmon for territory and mates. 61 Fed. Reg. 4,722 (defining discreteness as population's marked separateness from other populations). Second, hatchery populations lack the same significance to the persistence of salmon in the wild. Unless the hatchery population embodies the last remnants of a population, its loss will not produce a significant gap in the species' range. Id. (defining significance in terms of the population's role as the last remnant or the gap its loss would create).

In Alsea Valley, the district court expressed some skepticism about NMFS' ability to split the ESU, stating that "[i]t is undisputed that 'hatchery spawned' coho may account for as much as 87% of the naturally spawning coho in the Oregon coast ESU." Opinion at 18. A close review of the parties' statement of material facts and the administrative record documents that form the predicate for this statement reveal that there is, in fact, a significant dispute over the relevance and meaning of this number. In its statement of material facts, NMFS admitted only that "hatchery strays comprise 0 to 87 percent of naturally spawning coho populations in the Oregon coast and that only 11 percent of Alsea coho salmon are of hatchery origin." Defs.' Response to Plaintiffs' Concise Statement of Material Facts ¶ 3 (Feb. 27, 2001). This percentage is drawn from a chart in the coho status review (at 120) reporting 87% as the highest percentage of hatchery fish in natural spawning grounds. Notably, the 87% figure is from a hatchery population that was excluded from the ESU because it was not derived primarily from wild Oregon coast coho. The next two highest percentages likewise came from out-of-ESU hatchery populations. For all but one of the hatchery populations included in the ESU, the percentage of hatchery fish in natural spawning grounds was far less than 50%. In an ironic twist, the biological review team found that "[t]he extensive presence of hatchery-origin adults spawning in several coastal rivers is a cause for concern about the sustainability of natural production in these systems" because of the rates at which hatchery spawners fail to replace themselves in the number of returning progeny. Coho Status Review at 119.

2. *The Wild ESU Would Be Listed.*

If NMFS split hatchery and wild coho salmon into two separate ESUs, listing of the wild salmon ESU would be compelled under the ESA listing factors and the NMFS' prior findings that wild salmon need ESA protection. A split ESU would, therefore, maintain the status quo for the wild salmon. This scenario would leave hatchery populations unlisted. For the Oregon coast coho, the listing would remain identical to the current listing: naturally spawning salmon would be protected under the ESA, while hatchery fish would not be listed.

In the current listings, NMFS has decided to list hatchery populations included in the wild ESUs when they are "essential for recovery." In its listings of salmon and steelhead as endangered, NMFS has included hatchery populations that originated from within-the-ESU broodstock in the endangered listings. For the threatened listings, NMFS has excluded most hatchery populations from the listings based on the plight of the associated wild stocks. Including hatchery populations in the listings is neither necessary nor the only way to make them available for recovery purposes.

3. *ESA Tools for Protecting Hatchery Fish Were Necessary for Recovery.*

If hatchery populations are excluded from the listings, the ESA provides three tools that could allow NMFS to list or otherwise protect hatchery populations that are essential for recovery: (1) similarity of appearance listings; (2) 4(d) conservation regulations for threatened species; and (3) experimental populations. While 4(d) regulations apply only to threatened species, the first and third tools can be used regardless of the listing category.

First, under 16 U.S.C. § 1533(e), NMFS may treat a species (or distinct population segment) as a threatened or endangered species even though it is not listed if: (A) "such species

so closely resembles in appearance, at the point in question, a species which has been listed . . . that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species”; (B) “the effect of this substantial difficulty is an additional threat to an endangered or threatened species”; and (C) treating the unlisted species as listed “will substantially facilitate the enforcement and further the policy of” the ESA. It could be appropriate to list a hatchery population that is essential for recovery under this section because it would be difficult to differentiate between the hatchery and wild salmon until the harm may have been done and the hatchery fish would need the same protections as the wild salmon.

Second, for species listed as threatened, NMFS must promulgate a conservation regulation under section 4(d). Regulations issued under 4(d) must “provide for the conservation of [threatened] species.” 16 U.S.C. § 1533(d). Conservation is a term of art under the ESA, defined as “to use and 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 [the ESA] are no longer necessary” *Id.* § 1532(3). Given that NMFS has already found that some hatchery populations are “essential for recovery,” it could craft its 4(d) regulation to afford such hatchery populations the protection that they need to serve their recovery function. For example, under the conservation mandates of section 4(d), a 4(d) rule could make the take prohibition applicable to hatchery populations that are essential for recovery but not to hatchery populations that are not essential for recovery.

Third, section 10(j) authorizes the release of experimental populations where the release will further the conservation of the listed species. Section 10(j) requires that the experimental population be separate geographically from nonexperimental populations of the same species and outside the listed species’ current range. This requirement could limit the utility of section 10(j) for salmon in the same ESU, although the courts have injected discretion in reading section 10(j) to allow some geographic overlap. Wyoming Farm Bureau Fed’n v. Babbitt, 199 F.3d 1224, 1324 (10th Cir. 2000) (upholding denial of ESA protection to lone protected wolves that disperse outside the common spatial area where listed wolves interbreed). If hatchery fish that are essential for recovery can be treated as experimental populations under the Act, section 10(j) gives NMFS the latitude to designate the listing status of the experimental population. While the species may be listed as endangered, an experimental population of the same species may be treated as threatened or even not afforded any protected listing status at all. 16 U.S.C. § 1539(j)(2)(C) (experimental populations to be treated as threatened or in some circumstances as a species proposed for listing even where species is listed as endangered); Wyoming Farm Bureau Fed’n v. Babbitt, 199 F.3d 1224 (10th Cir. 2000) (upholding regulation denying wolves in experimental area ESA protections even where the wolves may be part of nonexperimental populations listed as endangered).

C. If NMFS Continued to Lump Wild and Hatchery Populations Into the Same ESUs, It Would Need to List the ESU, But Then Would Carve Out Different Protections for the Wild and Hatchery Fish Based on Their Conservation Needs.

Even if NMFS retained its current designation of the Oregon coast coho ESU, it would need to list the entire ESU under the ESA’s listing factors because of the precarious and declining state of the wild populations and the adverse impacts of the hatchery fish on coho

survival and recovery in the wild. Because hatchery fish diminish the fitness and diversity of salmon populations and cannot sustain themselves without the artificial and continual intervention of humans, wild Oregon coastal coho salmon will continue to need the protection of the ESA regardless of how the hatchery fish are characterized as a legal matter. As NMFS found in its coho listing determinations, wild coho population numbers are depressed, and their habitat is severely degraded by decades of logging, irrigation, agricultural practices, and development. 63 Fed. Reg. 42,587, 42,588 (Aug. 10, 1998); 62 Fed. Reg. 24,588, 24,594, 24,600 (May 6, 1997); 60 Fed. Reg. 38,011, 38,021, 38,025 (July 25, 1995). The only credible scientific determination that could flow from these conditions is affording Oregon coastal coho salmon ESA protection.

If NMFS listed an ESU that lumped wild and hatchery fish together, the ESA's protections would safeguard the ability of wild coho to survive and recover in the wild and have little, if any, applicability to artificially propagated populations, unless those populations were essential for recovery.

1. Critical Habitat Designation.

NMFS is required to designate critical habitat for listed species. However, critical habitat is defined to include those areas occupied by the species “on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.” 16 U.S.C. § 1532(5)(A)(i). Certainly those hatcheries that are not essential for recovery lack physical or biological features that are essential to recovery of the species. Even those hatcheries that have been deemed to be essential for recovery would not qualify for designation as critical habitat since their value lies not in their physical or biological features but rather in their output. The only habitat that could be designated as critical habitat would be part of the natural ecosystem essential to the recovery of salmon.

2. The § 7 Duty to Ensure Federal Actions Do Not Jeopardize Survival and Recovery.

Federal agencies have the obligation under section 7 to ensure that their actions will not jeopardize the continued existence of threatened or endangered species. 16 U.S.C. § 1536(a)(2). The implementing regulations define the phrase “jeopardize the continued existence” to mean “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” 50 C.F.R. § 402.02 (emphasis added). Since hatchery fish do not survive “in the wild,” in a long-term, multi-generational sense, impacts to such populations would be considered in a jeopardy analysis only to the extent they affect the survival or recovery of wild salmon populations. The same “in the wild” predicate is incorporated into the statutory criteria for approving habitat conservation plans and issuing incidental take permits. 16 U.S.C. § 1539(a)(2)(B)(iv). Accordingly, the focus of NMFS' review and approval of habitat conservation plans will be their effects on wild salmon survival and recovery.

3. *The ESA Take Prohibition.*

While critical habitat and section 7 consultations apply to federal agency actions, it is the take prohibition that reaches nonfederal activities, along with federal actions. The most likely outcome, however, is that the take prohibition will apply to all listed wild fish but only to those hatchery populations that are essential for recovery.

Under the ESA, the take prohibition applies to endangered species immediately upon listing. NMFS has included hatchery populations in its listings of salmon and steelhead as endangered, provided they have been categorized as within the same ESU as the wild fish. Accordingly, the take prohibition already applies to hatchery populations within endangered ESUs. This would continue to be the case.

For threatened salmon and steelhead, NMFS must promulgate a 4(d) rule. As discussed above, 4(d) rules embody the take prohibition and other safeguards that NMFS determines are necessary and advisable for the conservation of the threatened species. 16 U.S.C. § 1533(d). If NMFS has previously decided that certain hatchery populations are essential to the species' recovery, it would need to protect those hatchery fish in its 4(d) rule. Conversely, hatchery populations that are not essential for recovery would receive no protection in a 4(d) rule. The same determinations that NMFS previously made in the listing context would dictate the 4(d) protections afforded the hatchery populations.

* * * * *

Ironically, given Alsea Valley Alliance's motivation in bringing the lawsuit, the one scenario that is not viable is a NMFS' decision to deny protection to the wild salmon that are currently listed. Even if NMFS retains an ESU that lumps hatchery and wild fish together, the inclusion of the hatchery fish in the ESU cannot produce a no-list decision. NMFS has already found that the currently listed wild salmon are in decline because of one or more of the statutory listing factors, including the threats posed by hatchery fish. A listing is, therefore, warranted under the ESA. Because they are not self-sustaining in the wild, hatchery fish cannot be a basis for circumventing ESA protection. The hatcheries could close or malfunction either temporarily or permanently. Without the constant influx of juvenile hatchery fish, the hatchery fish would no longer produce returns. Instead, hatcheries can enter the ESA equation only as a tool to promote wild salmon survival and recovery, receiving ESA protection only when they effectively serve that goal.

¹ Common Sense for Salmon Recovery v. Evans, 1:99CV01093 PLF (D.D.C. Amended Complaint filed Aug. 10, 1999).

² Alsea Valley Alliance v. Evans, 161 F.Supp. 21152 (D. Ore. 2001).

³ Petition submitted on behalf of the Columbia –Snake River Irrigators Association. Petition includes 60-day notice.

⁴ Petition submitted on behalf of the Kitsap Alliance of Property Owners and the Skagit County Cattlemen’s Association. Petition includes 60-day notice.

⁵ Petition submitted on behalf of seven individuals residing in Klamath Falls and Malin, Oregon. Petition includes 60-day notice.

⁶ Petition submitted on behalf of Greenberry Irrigation District. Petition includes 60-day notice.

⁷ Petition submitted on behalf of the following agricultural organizations: Washington State Farm Bureau, Western Washington Agricultural Organization, Washington Potato & Onion Association, Washington Dairy Association, Washington State Grange, Washington Cattlemen’s Association. Petition includes 60-day notice.

⁸ 60-day notice filed on behalf of the Oregon State Grange, California State Grange, Greenhorn Grange, Jackson County Pomona Grange, Alsea Valley Alliance, and “the People” (consisting of approximately 35,000 individuals and organizations “involved in or supportive of agricultural pursuits”).