



NOSSAMAN LLP

ATTORNEYS AT LAW

1666 K Street, NW
Suite 500
Washington, DC 20006
T 202.887.1400
F 202.466.3215

George J. Mannina, Jr.
D 202.887.1491
gmannina@nossaman.com

Refer To File #: - 501537-0001

Via Email and First Class Mail

January 16, 2015

Ms. Eileen Sobeck
Assistant Administrator
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
United States Department of Commerce
Silver Spring Metro Center 3
1315 East-West Highway, Room 14636
Silver Spring, MD 20910

Dear Eileen:

On behalf of the Chinook Futures Coalition, I am pleased to submit a petition for the delisting of the Snake River Fall Chinook pursuant to 16 U.S.C. §1533(b)(3)(A).

Sincerely,

George J. Mannina, Jr.
Nossaman LLP

GJM/jm
Enclosure

PETITION FOR THE DELISTING OF THE SNAKE RIVER FALL CHINOOK

Pursuant to the Administrative Procedure Act, 5 U.S.C. §553(e), and as provided for in section 4(b)(3)(A) of the Endangered Species Act (“ESA”), 16 U.S.C. §1533(b)(3)(A), the Chinook Futures Coalition (“Coalition”) submits this petition to delist the Snake River Fall Chinook (“SRFC”) and requests a finding within 90 days as to whether this petition presents substantial information that the delisting may be warranted.

SRFC were listed as a threatened species in 1992, 57 Fed. Reg. 14653 (April 22, 1992) (“Final Rule”). *See also* 60 Fed. Reg. 19342 (April 17, 1995), 70 Fed. Reg. 37160 (June 28, 2005). The Final Rule stated the reasons for listing SRFC were modification of habitat or range, overutilization for commercial purposes, inadequacy of existing regulatory mechanisms, and other factors (specifically drought). 57 Fed. Reg. at 14660-61. SRFC no longer meet these or other listing standards and should be removed from the list of threatened species under the ESA. Indeed, the current status of SRFC is such that the designated evolutionary significant unit (“ESU”) meets recovery criteria developed by the National Marine Fisheries Service (“NMFS”). Furthermore, SRFC have no risk of extinction under foreseeable conditions.

I. Hatchery Fish Must Be Counted In The ESU

The NMFS Policy on the Consideration of Hatchery Origin Fish in Endangered Species Act Listing Determinations for Pacific Salmon and Steelhead states: “Under this new policy, hatchery stocks determined to be part of a DPS [distinct population segment] will be considered in determining whether a DPS is threatened or endangered under the ESA” 70 Fed. Reg. 37204, 37205 (June 28, 2005). When this Policy was applied to SRFC, it was determined that the production of SRFC from four hatcheries is included in the SRFC ESU. 70 Fed. Reg. 37160, 37200 (June 28, 2005). Those four hatcheries are the Lyons Ferry Hatchery, Fall Chinook Acclimation Program, Nez Perce Tribal Hatchery, and Oxbow Hatchery. The production of SRFC from these hatcheries is properly included in the ESU because the source of the fish for the hatcheries has been, and is, adult migrants in the Snake River taken at times and places that NMFS uses to define SRFC as an ESU and to define SRFC critical habitat.

NMFS’ inclusion of hatchery fish in the designated SRFC ESU is consistent with *Alsea Valley Alliance v. Evans*, 161 F.Supp.2d 1154 (D. Or. 2001), *aff’d*, 358 F.3d 1181 (9th Cir. 2004). In that case, the court held the ESA prohibits the listing of a subset of an ESU or DPS and that excluding hatchery fish so as to list only natural spawners was an improper listing below the DPS/ESU level. *See also* 70 Fed. Reg. at 37205 *citing Alsea Valley Alliance*.

For purposes of this, and any other, delisting petition, it is significant that NMFS’ Policy on Hatchery Origin Fish states unequivocally that “status determination for Pacific salmon and steelhead ESU will be based on the status of the entire ESU.” 70 Fed. Reg. at 37215. Thus, the contribution of hatcheries must be considered in any delisting decision where hatchery fish are part of the ESU, as is the case for SRFC. Indeed, for reasons stated above, it would be a violation of the ESA for NMFS to consider whether SRFC meet the delisting standards of the ESA based only on whether “natural” non-hatchery spawners have met certain thresholds.

Considering whether delisting is appropriate based only on the status of “natural” spawners would also violate the Administrative Procedure Act (“APA”) because the designation of the SRFC ESU includes both hatchery fish and natural spawners and that designation may be revised only pursuant to a published Federal Register notice in accordance with APA procedures. Courts have affirmed this legal principle. For example, in *Coos Cnty. Bd. of Cnty. Comm’rs v. Kempthorne*, 531 F.3d 792, 795-96 (9th Cir. 2008), the court determined that despite the Fish and Wildlife Service’s reservations about whether the species qualified as a distinct population segment, the agency had never altered the listing and could not change it without compliance with regular legal process. Similarly, in *Defenders of Wildlife v. Salazar*, 720 F.Supp.2d 1207 (D. Montana 2010), the court held the Fish and Wildlife Service could not alter the definition of the species at issue through delisting criteria and the delisting process. These court decisions are also in full accord with the ESA which requires that listing designations of species, and any revisions thereto, be made in accordance with the notice and comment requirements of the APA via the publication of proposed and final rules in the Federal Register. 16 U.S.C. §1533(c).

For all the reasons stated in this section, the decision regarding whether to delist SRFC must be based on the status of the entire ESU, including hatchery and non-hatchery fish. Consequently, the attempt in the most recent SRFC status review to suggest recovery standards based on population thresholds achieved by non-hatchery fish only violates the ESA and the APA. *See 5-Year Review: Summary and Evaluation of Snake River Sockeye, Snake River Spring-Summer Chinook, Snake River Fall Chinook, Snake River Basin Steelhead, NMFS (2011) (“5-Year Review”)*.

II. SRFC Meet The Standards For Delisting Under The ESA

The fundamental purpose of the ESA is to prevent the extinction of species. 16 U.S.C. §1531(a), 16 U.S.C. §1532(6) and (20). There can be no policy or legal debate that only those species facing a realistic threat of extinction are considered for protection under the ESA. Species not at risk are outside the orbit of the ESA and do not belong on the list of endangered and threatened species. The risk of extinction for SRFC is demonstrably near zero and, therefore, this ESU does not belong on the ESA list of protected species.

A. The Short Term Extinction Risk To SRFC Is Zero

The short-term¹ extinction risk to SRFC is zero. In a 2008 Biological Opinion, NMFS concluded: “The extinction risk analyses [in prior studies] assume that all hatchery supplementation ceases immediately.... [T]his assumption is not representative of the anticipated hatchery management. A more realistic assessment of short-term extinction risk would take hatchery programs into consideration, either qualitatively or quantitatively. If hatchery supplementation is assumed to continue at current levels for Snake River fall Chinook, the short-term extinction risk is 0%.” Endangered Species Act Section 7(a)(2) Consultation Biological Opinion, Magnuson-Stevens Fishery Conservation and Management Act Consultation on the Approval of Revised Regimes Under the Pacific Salmon Treaty and the Deferral of Management to Alaska of Certain Fisheries Included in those Regimes, NMFS, Dec. 2008 (“2008 BiOp”), at 9-1. As discussed below, the hatchery production on which this conclusion is based will

¹ NMFS has determined that short term is 24 years.

continue. Given that the SRFC ESU includes hatchery fish, there is no short-term extinction risk to SRFC that justifies continued listing.

Production of SRFC from the four hatcheries producing SRFC that are part of the ESU is funded through the Lower Snake River Compensation Plan, the Fall Chinook Acclimation Program, and the Hells Canyon Dam Complex Compensation Program. Each of these initiatives is financed by the power industry as mandated by the Water Resources Development Act of 1976 (P.L. 94-587); the 1980 Hells Canyon Settlement Agreement, an agreement among the Idaho Power Company, Idaho, Oregon, Washington, and the U.S. Department of Commerce; and Secretarial Order No. 3206 among the Secretary of the Interior, Secretary of Commerce, and tribal governments. Given that these hatchery programs are mandated by statute and agreement and, therefore, will continue, there is no extinction risk to SRFC that justifies continued listing.

B. The Long-Term Extinction Risk To SRFC Is Estimated To Approximate Zero

The long-term risk to SRFC of extinction is less than 1%.² Indeed, since 2006, SRFC have met the four criteria by which NMFS judges the viability of salmon species to be high and, therefore, to have a very low long-term risk of extinction. 5-Year Review at 21. Those four criteria are abundance, productivity, diversity, and spatial distribution. However, before proceeding to evaluate these four “recovery” standards in the 5-Year Review, it is important to recognize two things. First, these “recovery” standards are not an officially adopted recovery plan and, even if they were, recovery plans, as discussed below, are not the governing standard for delisting decisions. Second, the “recovery” standards in the 5-Year Review arbitrarily and illegally redefine the ESU to exclude hatchery fish. As discussed above, the ESU includes hatchery fish and any effort to establish delisting standards based only on thresholds achieved by non-hatchery fish violates the ESA and the APA. Nevertheless, this Petition will review the “recovery” standards in the 5-Year Review because, even if they were the governing standard, they are satisfied.

The abundance criteria in the 5-Year Review to measure the long-term threat of extinction are based on the number of spawning fish. In the case of SRFC, the issue is the number of fish spawning annually in the mainstem Snake River and elsewhere in the watershed. In 2013, 56,565 adult SRFC were counted passing upstream at Lower Granite Dam. Of that amount, 21,110 were estimated to have been “wild” SRFC (see Table 1 below).

² NMFS has determined that long term is 100 years.

Table 1. SRFC Upstream Passage

Years when Abundance Criteria met for all SRFC shaded in black, but not for "natural" SRFC; years shaded in gray when met for both.

Calendar Year	Passage Upstream LWG		Discounted 17% w/ RT Data		SRFC		% Spawning	SRFC		SRFC	Mainstem	
	SRFC All	SRFC Natural	SRFC All	SRFC Natural	SFRC(all) 10-yr GM	SFRC(nat) 10-yr GM		Mainstem All	Mainstem Natural		SFRC(all) 10-yr GM	SFRC(nat) 10-yr GM
1996	1,308	639	1,081	528			0.55	593	290			
1997	1,451	797	1,199	658			0.31	368	202			
1998	1,909	306	1,577	253			0.61	963	154			
1999	3,381	905	2,793	748			0.64	1,799	482			
2000	3,602	1,148	2,976	948			0.65	1,921	612			
2001	8,915	5,163	7,365	4,265			0.56	4,088	2,368			
2002	12,351	2,116	10,203	1,748	1,928	698	0.60	6,135	1,051	316	128	
2003	11,732	4,257	9,692	3,517	2,428	832	0.68	6,591	2,392	761	279	
2004	14,960	3,329	12,358	2,750	3,258	1,026	0.67	8,263	1,839	1,876	591	
2005	11,170	5,177	9,227	4,277	4,120	1,344	0.68	6,273	2,908	2,395	781	
2006	8,048	4,669	6,648	3,857	4,941	1,640	0.75	4,981	2,890	2,964	983	
2007	10,195	3,742	8,422	3,091	6,005	1,914	0.57	4,824	1,771	3,833	1,222	
2008	16,628	3,930	13,736	3,247	7,456	2,470	0.60	8,233	1,946	4,751	1,574	
2009	15,167	4,977	12,529	4,111	8,663	2,929	0.60	7,578	2,487	5,486	1,855	
2010	41,815	7,995	34,543	6,605	11,070	3,557	0.59	20,384	3,897	6,947	2,232	
2011	25,249	8,778	20,858	7,251	12,285	3,751	0.61	12,628	4,390	7,777	2,374	
2012	34,688	12,797	28,655	10,571	13,621	4,490	0.47	13,417	4,950	8,410	2,772	
2013	55,565	21,110	46,728	17,439	15,942	5,270	0.45	20,956	7,821	9,441	3,121	
2014	60,686	23,061 ^a	50,369	19,140	18,347	6,398	0.45 ^b	22,666	8,613	10,443	3,642	

^a As of the date of this Petition the estimated count of SRFC naturals passing Lower Granite Dam in 2014 has not been published. The statistic reported here is the product of the passage of all SRFC and the fraction of natural salmon estimated for the passage in 2013 (38%).

^b As of the date of this Petition the estimated fraction of SRFC spawners spawning in the mainstem Snake River in 2014 has not been published. The statistic reported here for 2014 is the estimate for the population spawning in 2013 (45%).

Source: 2013 Ocean Salmon Fisheries: Stock Assessment and Fishery Evaluation document for the Pacific Coast Salmon Management Plan, Pacific Fishery Management Council, 2014 ("PFMC 2014") at 222; U.S. Corps of Engineers available at http://www.cbr.washington.edu/dart/query/adult_daily.

In 2014, 60,686 adult SRFC were counted passing upstream of the Lower Granite Dam; counts of "wild" SRFC in this passage have yet to be published. However, 23,061 is a reasonable preliminary estimate for "wild" SRFC moved past the dam in 2014, considering that 38% of the passage was of "wild" SRFC in 2013. On average, at least 83% of the fish passing Lower Granite Dam reach spawning areas upstream. Garcia et al. 2004. Thus, in 2014, an estimated 50,369 SRFC spawned throughout the watershed, of which an estimated 19,140 were "wild" SRFC. Surveys over the past 10 years document that 43% - 75% of all redds observed above Lower Granite Dam are in the mainstem Snake River, with 45% in the mainstem Snake River in 2013. Arnsberg et al. 2014.³ While the estimated percentage of SRFC spawners spawning in the mainstem in 2014 has yet to be published, if one uses the fraction estimated for spawners in 2013 (45%) as a surrogate, then the preliminary estimates would be 22,666 SRFC spawning in the mainstem Snake River in 2014, of which 8,613 were "wild" SRFC. In considering these numbers, recall that at the time of listing wild escapement was estimated to be 391. 57 Fed. Reg. at 14660. These numbers demonstrate that the extinction risk to SRFC has been dramatically reduced.

³ Arnsberg, W., P. Groves, F. Mullins, D. Milks, and M. Allen, 2014, 2013 Snake River Fall Chinook Salmon Spawning Summary, Report to the Bonneville Power Administration. See <http://www.idahopower.com/AboutUs/Sustainability/Stewardship/reddcount.cfm> for annual redd counts in the mainstem Snake River and major tributaries.

SRFC meet the abundance criteria in the 5-Year Review which stated that a “recovered” SRFC ESU would have a geometric mean of natural spawning SRFC within the Snake River basin over the previous 10 years of 3,000 and, of that 3,000, a 10-year geometric mean of 2,500 SRFC spawning in the mainstem Snake River. 5-Year Review at 21. The 10-year geometric mean for natural origin spawners calculated over the years 2005-2014 is 6,398 spawning in the Snake River watershed, which exceeds the minimum of 3,000. The comparable 10-year geometric mean for natural origin spawners in the mainstem Snake River is 3,642, which also exceeds the minimum of 2,500. If hatchery fish are included in the calculations, as required by the ESA and NMFS’ applicable policies, the 2014 10-year geometric means for all SRFC spawning in the Snake River and for those exclusively spawning in the mainstem are 18,347 and 10,443 respectively, again well above the abundance criteria in the 5-Year Review.

In sum, the abundance standard set forth in NMFS’ 5-Year Review to classify SRFC as having a low risk of extinction has been met for 2014. The criteria were also met in 2012 and 2013. If all SRFC are considered regardless of their origin, the abundance criteria have been met since 2006. *See* Table 1, *infra*.

SRFC also meet the productivity criterion set forth in the 5-Year Review. According to NMFS: “Achieving a very low risk rating for abundance and productivity requires exceeding the same natural-origin abundance threshold combined with a productivity estimate of 1.5 or higher.” 5-Year Review at 21. During the 2013 Snake River Fall Chinook Program Review Symposium, scientists from NMFS’ Northwest Fisheries Science Center presented an analysis of data through 2012. Cooney, T.D. 2013, Snake River Fall Chinook Population Status Update, (“Cooney 2013”). The productivity estimate based on the data in that report ranged from 1.49 to 1.57 depending on the method used to model productivity. Cooney 2013 at 34. Recognizing that there was some uncertainty in these statistics, NMFS scientists simulated 100, 100-year projections with that uncertainty included and accounted for but with hatchery production excluded. Cooney 2013 at 22. None of those projections ended in extinction of the “natural” SRFC. In fact, with hatchery production excluded, the models demonstrated there is a less than 1% long-term risk of the ESU going extinct. The strong returns of “wild” SRFC in 2013 only strengthen this outcome.

SRFC also meet the goal of spatial distribution set forth in the 5-Year Review in that a new population of SRFC has been established in the Clearwater River. The 5-Year Review stated: “The ICTRT [Interior Columbia Technical Review Committee] concluded that the single MPG [multiple population group] must be at low risk for the ESU to be considered viable (ICTRT 2007). This would require the re-establishment of at least one other population to meet the minimum viability criteria established by the ICTRT for ESUs with a single MPG.” 5-Year Review at 20. The current situation in the Clearwater River represents that “re-establishment.”

In 1991, only four redds made by fall Chinook salmon were observed in the Clearwater River.⁴ These fish represented strays from other watersheds or remnants of abandoned attempts to establish a run by implanting eyed eggs into spawning gravel prior to the removal of the Lewiston Dam in 1973. In 1993, a program began to introduce juvenile SRFC into the Clearwater River and, in 2013, 2,956 redds were counted in the Clearwater River. Arnsberg, et

⁴ *See* <https://www.idahopower.com/AboutUs/Sustainability/Stewardship/reddcount.cfm>.

al. 2014. This spawning group clearly represents the re-establishment of another population group of SRFC. Although SRFC meet the spatial distribution standard suggested in the 5-Year Review, it must be noted that establishing another population of SRFC to lower the risk of extinction is not relevant when all other prudent and reasonable delisting criteria have been met.

The diversity standard suggested by NMFS in the 5-Year Review for judging the risk of extinction or loss of viability in a salmon ESU is antithetical to the ESA as currently applied to Pacific salmon. Species such as Pacific salmon are diverse in that they are composed of two or more ESUs. By definition, each ESU is unique in that it has adapted to a unique environment and a unique habitat (its evolutionary legacy). Therefore, requiring an ESU to become more “diverse” in ways other than an increase in abundance is arguably a wish for a broader, less unique, and different evolutionary legacy than the one that created the ESU. The only realistic means of increasing diversity in the SRFC ESU without jeopardizing its evolutionary legacy is to increase the number of spawners that existed when the ESU was listed in 1992—which has happened.

In sum, there no short-term or long-term risk of extinction to SRFC. Moreover, SRFC meet the abundance, productivity, spatial distribution, and diversity standards in the 5-Year Review for considering a species to be recovered, notwithstanding the fact that the 5-Year Review establishes standards that illegally exclude hatchery fish from the ESU.

III. SRFC Meet The Statutory Standards for Delisting

The ESA sets forth five criteria by which NMFS is to determine if a species should be listed or remain listed. 16 U.S.C. §1533(a)(1). A review of these listing factors confirms SRFC should be delisted. However, consideration of the ESA listing/delisting standards must be done with the purposes and policies of the ESA in mind. The purpose of the statute is to prevent the extinction of animal and plant species. The fact that the extinction risk to the defined SRFC ESU is at or approaching zero establishes beyond reasonable doubt that SRFC should no longer be listed under the ESA and that the delisting standards are met individually and cumulatively.

A. There Is No Destruction, Modification, Or Curtailment Of The SRFC Habitat Or Range That Justifies Continued Listing

The first listing/delisting standard relates to the availability and viability of habitat, which is reflected in a species’ numbers. Thus, NMFS justified listing SRFC based on the fact the population had declined. The decline was a direct result of the loss of spawning habitat from the construction of dams. The Final Rule listing SRFC noted that “[w]ild escapement in 1991 was

estimated to be 391 [citation omitted].” 57 Fed. Reg. at 14660. Thus, the principal question for delisting is whether that population has increased sufficiently to justify delisting.⁵

In that regard, NMFS has not adopted a recovery plan for SRFC. However, even if NMFS had done so, recovery plans do not have a legally binding effect. At best, a recovery plan, or a stock assessment, might provide guideposts. Indeed, the Justice Department has argued before the courts, and courts have agreed, that criteria in a recovery plan are “not binding upon the agency in deciding whether a species is no longer endangered and therefore should be delisted.” *Friends of Blackwater v. Salazar*, 691 F.3d 428, 432-34 (D.C. Cir. 2012). In the absence of a recovery plan, the most recent status review of SRFC attempts to set out recovery guideposts by stating that for there to be a low risk to SRFC “the 10-year geometric mean natural origin escapement should exceed 3,000 with a minimum of 2,500 natural origin spawners in the main stem Snake River major spawning areas.” 5-Year Review at 21.

In considering these guideposts, it is important to recall the *Alsea Valley Alliance* case and the NMFS Policy on Hatchery Origin Fish, as well as the SRFC listing determination that specifically includes hatchery origin fish in the ESU. Given the court’s decision, the agency’s policy statement, and the ESU listing, it is legally inappropriate to redefine the ESU as is done in the 5-Year Review to exclude hatchery fish when calculating the 3,000 and 2,500 “recovery” thresholds. However, it must be noted that even if these numbers are the standard, SRFC meet this goal and should be delisted.

The facts are that habitat changes are ultimately reflected in population trends and numbers. Those trends⁶ and numbers, as discussed above, demonstrate that the effects of any habitat degradation that may have occurred in the past no longer restrain the population to the extent that listing is justified. Indeed, the overall abundance numbers demonstrate that the risk of extinction for SRFC is effectively zero.

B. There Is No Overutilization Of SRFC

The second listing/delisting standard is whether the species is over utilized for commercial or other purposes. In that regard, the Final Rule asserted the Lyons Ferry Hatchery fall chinook salmon “have the same distribution as wild Snake River fall chinook salmon,” the

⁵ It has been suggested by some that recovery of salmon populations must achieve two goals prior to delisting. The first goal is that the species no longer requires protection under the ESA. The second goal is that the salmon population is at a level that allows meaningful exercise of tribal fishing rights and provides sustainable fisheries. The second goal, while laudable, has no statutory foundation in the ESA and is not a legally cognizable standard for delisting. The applicable statutory standards do not include the establishment of population levels that provide some undefined level of harvest. Moreover, the second goal is inconsistent with NMFS’ own regulations that define “recovery” as “improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set out in Section 4(a)(i) of the [ESA]. 50 C.F.R. §402.02.

⁶ “The return of [Snake River] fall Chinook over Lower Granite Dam increased steadily from the mid-1990s to the present.” 2008 BiOp at 5-5; see also PFMC (2014) at 222.

exploitation rate for the hatchery fish is 69%, and a 69% harvest rate “may be higher than the Snake River fall chinook can sustain.” 57 Fed. Reg. at 14660.

At the outset, it is important to recognize that the listing decision does not conclude that a 69% utilization rate is a threat to the species. Instead, NMFS concluded only that it “may” be too high. Given that tentative conclusion, it is significant that, according to the annual report of the Pacific Salmon Commission’s Chinook Technical Committee; a majority of which were NMFS, Fish and Wildlife Service, State, and Canadian scientists; the average exploitation rate of Lyons Ferry Hatchery Fall Chinook during the 2003-2010 time frame had fallen to 28%-32%. Chinook Technical Committee, 2012, Figures E18-19.⁷ A reduction from a 69% exploitation rate to a 28%-32% rate demonstrates that this listing factor is not a viable basis on which to retain SRFC on the list of protected species. Indeed, the 1999 and 2008 biological opinions regarding the fisheries management programs for SRFC found that commercial fishing is not likely to jeopardize SRFC. Moreover, NMFS acknowledges that utilization rates in the future will likely remain well below the 1992 level.

As noted above, when SRFC were listed as a threatened species, NMFS did not conclude there was overutilization of SRFC. Instead, the agency concluded the 69% utilization rate “may” have been higher than could be sustained. The ESA requires that NMFS determine if a species should be listed “because” of any of the listing factors. NMFS did not cite overutilization as a “cause” of the SRFC decline. Instead, the agency speculated that utilization rates “may” have had an impact. Moreover, even if “may” affect is the correct evidentiary standard under 16 U.S.C. §1533(a)(1), the increasing numbers of SRFC returning to spawn demonstrate there is even less of a basis today to assert that utilization rates “may” be affecting SRFC. Indeed, there is no evidentiary basis on which to assert there is a cause and effect relationship.

C. There Is No Disease Or Predation That Justifies Continued Listing

The third listing/delisting factor is the effect of disease or predation on the species. The Final Rule listing SRFC as a threatened species stated SRFC are exposed to a variety of bacterial, protozoan, viral, and parasitic organisms but that the effects of this exposure “are largely unknown.” 57 Fed. Reg. at 14660. Regarding predation, the Final Rule provided no example of any predation and concluded that the extent to which predation is causing a population decline “is unknown.” *Id.*

Although disease and predation were not factors leading to the 1992 listing, considerable work has been done since then regarding predation. That work has considered the effects of flow augmentation and reduced water temperature, concluding that predation of SRFC has decreased.

Regarding flow augmentation, the Snake River Water Rights Act of 2004, P.L. 108-447, required additional flow in the river. Enhanced river flows lower water temperatures. The

⁷ This reference is to the penultimate report in a series with the most current report published in 2014. Unfortunately, a significant analytical error was discovered in the most current report after publication, an error that inflated estimated exploitation rates over all years for SRFC. The error did not occur in the analysis for the report published in 2012, the report referenced here. No report in the series was published in 2013.

combined effect of increased water flows and reduced water temperature reduce predation in at least four ways. First, as water temperatures cool, the metabolic needs of piscine predators wane, thereby reducing the mortality of SRFC subyearlings. Vigg and Burley 1991; Connor et al. 1998, 2003a; Smith et al. 2003. Second, higher summer flows hinder piscine and avian predators either by increased turbidity as postulated by Antolos et al. 2005 or by reducing the time migrating fish are in the river and exposed to riverine predators. Third, cooler water delays downstream migration resulting in fish overwintering in reservoirs behind dams on the lower Snake River. These “reservoir” fish smolt at larger sizes early the next spring. In general, larger juvenile salmon have measurably better survival rates in part because of their ability to evade predators. Bugert et al. 1997, Bickford and Skalski 2000, Connor et al. 2005, Keefer and Peery 2008. Fourth, because fish overwintering in reservoirs are larger at the time of their downstream migration they travel faster, leaving less time for predation. Giorgi et al. 1997, Tiffan et al. 2000, Connor et al. 2004.

In sum, subyearling survival improves as flow increases and water temperature decreases. Muir et al. 1999; Connor et al. 1998, 2003a, 2003b; Smith et al. 2003. Indeed, the synoptic literature review by Keefer and Peery 2008 observes: “In general, larger subyearlings have tended to survive at high rates, perhaps as a result of greater swimming abilities and/or size-selective predation on smaller fish.” Predation, which was not a factor leading to the ESA listing in 1992, is even less of a factor today because of flow augmentation.

There is also no evidence of disease as a factor affecting SRFC. Hatchery-produced SRFC have been exposed to bacterial kidney disease (“BKD”) caused by *Renibacterium salmoninarum* and bacterial gill disease (“BGD”) caused by *Flavobacterium branchiophilum*. During the 2013 Snake River Fall Chinook Program Review Symposium, scientists from the Washington Department of Fish and Wildlife presented a review of hatchery-produced SRFC based on data through 2012. Gloyn, D. 2013, Snake River Fall Chinook Lyons Ferry Hatchery, (“Gloyn 2013”). Both diseases have been endemic to hatcheries on the Columbia River and its tributaries at, and well before, the time of listing for SRFC. The former disease has been controlled with antibiotics and testing; and the latter with improved practices at the hatchery. These remedies have been effective. Bacterial kidney disease has not been found in broodstock regardless of origin (hatchery or natural) or found in progeny since 2010. There has not been a breakout of BGD since 2008 among hatchery-produced SRFC.

D. Existing Regulatory Mechanisms Are Adequate

The fourth listing/delisting criterion is adequacy of existing regulatory mechanisms. That this standard is satisfied is amply demonstrated by the increasing number of SRFC returning to the watershed and the number of those fish that are successfully spawning.

E. There Are No Other Natural Or Manmade Factors Affecting The Continued Existence Of The SRFC

The final listing/delisting standard set forth in the ESA is the general catchall standard of whether there are other factors affecting the species. The only miscellaneous factor affecting SRFC identified in the Final Rule was drought. However, the Final Rule could only state that drought “may have contributed” to reduced SRFC production. 57 Fed. Reg. at 14660.

In considering drought as a factor affecting SRFC, it is important to recognize that river flow in SRFC habitat is regulated by eight dams in the Snake River watershed and four downstream dams in the Columbia River. Those dams are operated by the Federal Columbia River Power System (“FCRPS”) and the Idaho Power Company (“IPC”). The facts are that FCRPS and IPC control the quantity of water for spawning and rearing habitats available to SRFC. In 2005, as required by the Snake River Water Rights Act of 2004 (P.L. 108-447), the FCRPS and IPC began a regular program to augment river flows to benefit SRFC. The result of these measures is described by NMFS as follows: “Cool water continues to be released from Dworshak Dam on the North Fork Clearwater River between July and September to reduce temperatures for migrating adults and juvenile SR fall-run Chinook salmon. Also, the U.S. Bureau of Reclamation and Idaho Power Company continue to release water to augment flows during the summer migration period. Lastly, Idaho Power Company’s Hells Canyon Complex is operated to maintain stable spawning flows for SR fall-run Chinook salmon and ensure that dam operations do not dewater SR fall-run Chinook salmon redds.” 5-Year Review at 35. In short, the statute ensures that sufficient waters will be available for SRFC into the foreseeable future.

IV. Conclusion

The purpose of the ESA is to stop the extinction of species. With respect to the SRFC, the purposes and policies of the ESA have been fulfilled because NMFS has determined that the short-term and long-term risk of extinction to SRFC with or without considering hatchery production is effectively zero. Current returns are large, and hatchery production is stable into the foreseeable future. Thus, there is no basis on which to continue listing SRFC as a threatened species. A review of the five listing and delisting standards in the ESA confirm there is no continuing basis for the listing. Finally, even if one uses the “recovery” standards in the 5-Year Review, SRFC do not meet the standards for listing as a threatened species. For all of these reasons, this petition should be granted.