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Notice of Availability of a Draft Framework for Ranking the Relative Importance of Puget Sound Chinook Salmon Populations and Watersheds for ESU Recovery and Delisting; Endangered and Threatened Species; Take of Anadromous Fish; Notices

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XA111

Notice of Availability of a Draft Framework for Ranking the Relative Importance of Puget Sound Chinook Salmon Populations and Watersheds for ESU Recovery and Delisting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of availability; request for comments.

SUMMARY: We, the National Marine Fisheries Service (NMFS), announce the availability of a draft technical framework for ranking recovery potential of populations of Puget Sound Chinook salmon and watersheds supporting them. The draft framework relies on the best available scientific information regarding the status and structure of Puget Sound Chinook salmon populations and their habitat. It builds on the work of the Puget Sound technical recovery team, which provided the technical foundation of the Puget Sound Chinook recovery plan (NMFS 2006). The technical recovery team identified the population structure of Puget Sound Chinook and recommended biological recovery criteria (Ruckelshaus *et al.* 2002; 2006). It did not advise, however, on the relative roles of the various populations in achieving recovery and no such roles were identified in the recovery plan completed for the species. In contrast, technical teams that developed recovery criteria for other species of salmon in the Northwest did recommend roles for individual populations in recovery. Following adoption of the Puget Sound Chinook salmon recovery plan, we convened an internal technical team to analyze the role each population should play in recovery. The draft technical framework described in this notice represents the internal technical team's recommendations. This notice also describes potential management implications of the framework.

DATES: Information and comments on the draft framework must be received at the appropriate address or fax number (*see* **ADDRESSES**), no later than 5 pm. on January 28, 2011. We encourage the public's involvement in reviewing this framework.

ADDRESSES: Information and comments on this draft framework should be submitted to Garth Griffin, Chief, Protected Resources Division, NMFS. Comments may also be sent via facsimile (fax) to (503) 230–5435 or by e-mail.

FOR FURTHER INFORMATION CONTACT: Elizabeth Babcock, NMFS, Northwest Region, (206) 526–4505.

SUPPLEMENTARY INFORMATION:

Background

Puget Sound Chinook salmon are listed as "threatened" under the Endangered Species Act (ESA) (70 FR 37160). The ESA defines species to include subspecies and "distinct population segments" (16 U.S.C. 1532). We have identified 52 distinct population segments of salmon and steelhead that spawn in California, Oregon, Washington, and Idaho. We have listed 28 of these as threatened or endangered under the ESA. For Pacific salmon, we recognize distinct population segments based on evolutionarily significant units, or ESUs. Nearly all of the salmon ESUs we identified are comprised of multiple populations. An ESU with healthy populations distributed throughout the ESU's range and exhibiting diverse life history characteristics will be resilient to natural variation and catastrophic events (McElhany *et al.* 2000). Thus, multiple populations contribute to ESU viability when they are healthy and are subject to non-correlated risks (McElhany *et. al.* 2000).

While all populations in an ESU may contribute to ESU viability, some may contribute more than others. McElhany *et al.* (2000) recommended several characteristics of a viable ESU. They recommended that an ESU should contain multiple populations; that some populations in an ESU should be geographically widespread while some should be geographically close; that populations should not all share common catastrophic risks; that populations that display diverse life-histories and phenotypes should be maintained; and that some populations should exceed the minimum viability guidelines.

In 1999 we established technical recovery teams to develop scientific advice for salmon and steelhead recovery throughout the Pacific Northwest. The teams identified the historical and current spawning populations, and the population structure, for each listed species. Relying on the work of McElhany *et al.* (2000) and other conservation literature, they established the biological criteria necessary for each ESU to have a high probability of persistence over time (referred to here as "biological recovery criteria"). Most of the teams also provided guidance on the role of each population in recovering the listed ESUs. For example, the team convened to provide advice on lower Columbia River salmon and steelhead determined the contribution of individual populations to ESU recovery and designated them as "primary, contributing, or sustaining" (McElhany, 2004).

The team we convened to provide scientific advice on Puget Sound Chinook identified the historical and current populations of the ESU and the population structure. The team identified 38 historical and 22 extant populations (Ruckelshaus *et al.* 2006). The team also advised on the biological recovery criteria for the ESU. The team did not, however, provide guidance on the relative role of individual populations in overall ESU recovery. In the recovery plan for Puget Sound Chinook (NMFS 2006), we accepted the biological recovery criteria as the applicable criteria for delisting the ESU. Although we identified certain of the 22 populations that must be at low risk of extinction for delisting to occur (NMFS, 2006), we did not attempt to otherwise supplement the team's work with guidance on the relative role of each population in recovery.

We explained in the recovery plan that we intended to continue working with states, tribes, and others to develop a process for identifying priority populations and watersheds.

NMFS believes that a systematic approach is needed to identify those Chinook salmon populations that should receive the highest priority for recovery activities, with the overarching goal of meeting ESU delisting criteria. This position is based on the premise that not all of the 22 Puget Sound Chinook salmon populations or their watersheds have the same role in contributing to the recovery of the ESU. Key considerations are the uniqueness, status, and physical location of the population, the present condition of the population's freshwater, estuarine and adjacent nearshore habitats, and the likelihood for preserving and restoring those habitats given present and likely future condition.

In the case of other salmon and steelhead species, we have found that technical information on the relative recovery roles of populations helps inform decision-making under the ESA. We therefore convened an internal team of NMFS technical experts to advise the agency on this aspect of Puget Sound Chinook recovery. We are mindful that recovery of an ESU under the ESA is not necessarily equivalent to the broad

sense recovery that would fulfill the expectations of Indian tribes with treaty-reserved fishing rights. We remain fully committed to broad sense recovery of all populations contributing to treaty Indian fisheries but acknowledge that this level of recovery is not necessarily the same as recovery under the ESA. This framework addresses only recovery under the ESA.

Biological Recovery Criteria

The draft technical framework builds on the work of the technical recovery team (Ruckelshaus *et al.* 2002; 2006). The technical recovery team identified five major bio-geographical regions within the Puget Sound Chinook ESU, based on biological and geological characteristics of each watershed and the probability of catastrophic risk to populations in close proximity to one another. Their biological recovery criteria, which incorporate the concepts developed by McElhany *et al.* (2000), are:

1. The viability status of all populations in the ESU is improved from current conditions.

2. At least two and up to four Chinook salmon populations in each of five bio-geographical regions within the ESU achieve viability, depending on the historical biological characteristics and acceptable risk levels for populations within each region.

3. At least one population from each major genetic and life history group historically present within each of the five bio-geographical regions is viable.

4. Tributaries to Puget Sound not identified as primary freshwater habitat for any of the 22 identified populations are functioning in a manner that is sufficient to support an ESU-wide recovery scenario.

5. Production of Chinook salmon from tributaries to Puget Sound not identified as primary freshwater habitat for any of the 22 identified populations occurs in a manner consistent with an ESU recovery.

6. Populations that do not meet the viability criteria for all VSP parameters (i.e. abundance, productivity, spatial structure and diversity) are sustained to provide ecological functions and preserve options for ESU recovery.

Together, these six criteria describe the status of Chinook salmon populations and the habitat conditions that would result in a naturally self-sustaining ESU with a high likelihood of persistence. Criteria 1, 2, 3, and 6 describe the conditions of extant populations and their primary freshwater areas within the ESU that are consistent with recovery. Criteria 4 and 5 describe the roles that habitat conditions and Chinook salmon juveniles and adults occurring in secondary habitat areas play in ESU viability.

Draft Technical Framework—Methods

The internal technical team developed an analytical approach that allowed it to assign an ESA recovery priority to each population based on the best available scientific information. Recognizing that biological populations are inseparable from their habitats, the team developed an approach that also allowed them to identify the relative importance of different habitat areas to Chinook recovery. The team first identified all watersheds in Puget Sound where Chinook salmon spawn, organized according to the Washington Department of Ecology classification system of water resource inventory areas. They identified the watersheds within each inventory area and the population occupying each watershed.

For each population, the technical team identified its bio-geographical region (using Ruckelshaus *et al.* (2002)) and "stock category." The stock categories were those that had been assigned to differentiate Puget Sound Chinook salmon in a separate process by state and tribal salmon managers. The managers assigned categories to stocks based on their origin (native or introduced) and whether the stock's watershed of origin historically supported a self-sustaining Chinook salmon population. Category 1 stocks are indigenous, genetically unique populations that are native to the watersheds where they originate, Category 2 stocks are non-native stocks, introduced into watersheds capable of sustaining natural production but that no longer contain indigenous populations. Category 3 stocks originate from watersheds that historically did not support natural spawning by Chinook salmon.

The team developed a rating scheme for each population and watershed that assigned scores of 0 to 3 for several indicators. For populations, the indicators were based on the criteria developed by McElhany *et al.* (2000) to describe a viable salmon population: Abundance, diversity, distribution, and productivity. For watersheds, the indicators were based on an existing analysis of habitat condition and value by Beecher *et al.* (1999), the relative value of adjacent estuaries to ESU populations, and NMFS' critical habitat designation for Puget Sound Chinook. The team summed the scores for each indicator to arrive at a total score for each population and each watershed, reflecting the viability status and uniqueness of each population, immediacy of risk to the population, and the condition and relative recovery value of the watersheds the populations inhabit.

The team next examined the relationship of each population to the six recovery criteria adopted in the recovery plan. The team assigned one point for each criterion met by the population. The team developed a rule set to determine whether a population met a specific criterion. Thus for this element a population could receive a score as high as 6. In the final step of its analysis, the team compared scores for the populations across all three categories (population viability, habitat status and use, and relationship to the recovery criteria). The team then divided populations into three categories, based on their relative total scores within their respective bio-geographical regions, which the team called Tier 1, Tier 2, and Tier 3.

The following discussion describes in more detail the method the team used to assign population viability scores and habitat status and use scores.

(1) Population Viability Scores

Abundance. The team considered the abundance of natural origin spawners and whether hatchery fish in the watershed were part of or separate from the ESU. The team rated the abundance of natural-origin spawners relative to the current carrying capacity of the habitat, factoring in the population's stock category assignment. For example, indigenous (category 1) populations at critical status received a higher score than indigenous populations identified as meeting the current capacity of the habitat. Introduced (category 2) populations were assigned lower scores compared to indigenous stocks for a given abundance status. With respect to hatchery programs, the team indicated whether hatchery fish are present, whether they are considered in or out of the ESU, whether they are managed to be separate from or integrated with the natural origin population, and whether they are produced for conservation or harvest augmentation purposes.

Diversity. To assess diversity the team considered the uniqueness of the population's life history within its bio-geographical region, the risk posed by non-native strays on the spawning grounds, and the proportion of juveniles that emigrate as yearlings versus sub-yearlings. The team relied on two indicators of uniqueness. First, the team assigned a score of 1 to 3 based on how many other populations of the same history type occurred within the bio-geographical region, with a score of 3

indicating the greatest uniqueness. Second, the team examined how much the genetic integrity of the natural population might be affected by the proportion of hatchery fish on the spawning grounds. To determine the "proportion of natural influence," the team relied on scores from an existing model (A. Appleby, unpublished WDFW data, 2005). The team assigned ratings, with a score of 3 indicating the greatest proportion of natural origin spawners and a score of 1 indicating the lowest.

The team also considered the proportion of non-native hatchery strays on the spawning grounds as an aspect of diversity. As with the risk presented by a low proportion of natural origin spawners, the team gave a higher score to populations with fewer non-native hatchery strays on the spawning grounds. Finally, the team considered populations with a substantial proportion of juvenile fish that emigrate seaward as yearlings as a rare and diminishing component of Puget Sound Chinook diversity. The team rated populations from 1 to 3, with the higher scores going to populations with a higher percentage of yearling emigrants.

Distribution. The team referred to this criterion as spatial structure. It identified five factors, each of which indicates some desirable aspect of population distribution. Some of the factors relate to the population, while others relate to the watershed. These factors are: (1) The watershed is in an area at the geographical boundary of the ESU; (2) the watershed bridges bio-geographical regions; (3) the population is a stronghold and thus a source for re-colonizing vacant habitat; (4) Chinook use the watershed extensively, in terms of miles; and (5) the area is important in preserving or re-establishing the sub-yearling life history type (as per Beechie *et al.* 2006). Populations meeting any one of the five factors received a rating of 3 while those meeting none of the five factors received a rating of 1.

Productivity. The team identified growth rate (noted as *lambda,* or λ) as the best indicator of productivity. It relied on NMFS' most recent status review (Good *et al.* 2005) as the best recent estimate of growth rates. To rate this indicator, the team considered whether the population's growth rate was above 1.0 (indicating an increasing population), or below 1.0 (indicating a declining population). The team's ratings also accounted for the population's "stock category," as described above under *Diversity.* The team reasoned that indigenous populations would be most important to recovery, while non-native populations would be of lesser value as they originate from relatively recent introductions that might feasibly be replaced with the same non-native stock through transfers. Thus Category 1 (indigenous) stocks with a growth rate less than one received a rating of 3, while those with a growth rate equal to or greater than 1 received a 2. Category 2 stocks (non-indigenous but part of the ESU) received a rating of 2 or 1, depending on whether the growth rate was above or below 1.0. Category 3 stocks (non-native and not part of the ESU) received a 0, or "not applicable" rating.

(2) Habitat Status and Use Scores

In response to salmon declines, the Washington Governor's natural resource cabinet convened a group of agency scientists to provide advice on statewide salmon recovery. The group produced a report that proposed a system for prioritizing watersheds for protection and restoration of wild salmon and steelhead (Beecher *et al.* 1999). The NMFS' team relied on two indicators from Beecher *et al.* (1999) that best reflect habitat value—one indicating current condition and one indicating the extent to which the watershed would benefit from preservation and restoration. The NMFS' team took the range of scores developed by Beecher *et al.* (1999) for each of these indicators and divided the range into 3 categories. This allowed the team to assign a score of 1 to 3 based on the scores from this larger range.

The team also assigned ratings for a nearshore value indicator, based on the assessment of the number of Chinook salmon populations that may benefit from the watershed's associated nearshore area for rearing and migration, given its geographic location relative to Chinook salmon population seaward migration routes. The highest score (3) was assigned for nearshore areas used by the greatest number of populations, with areas used by an intermediate number assigned a "2" and nearshore areas used by the least number scored a "1". The team also scored the watershed based on NMFS' designation of critical habitat (70 FR 52630). For freshwater areas, the team assigned a score of 2 if the area was designated as critical habitat and 0 if it was not.

(3) Cumulative Scores and Tier Assignments

After determining scores for the viability and habitat condition and use parameters, and considering each population's relationship to the six viability criteria, the team created index scores for each population by comparing the parameter scores for the populations in each bio-geographical region to an ESU-wide mean score. This allowed the team to make relative comparisons among populations for each parameter (viability, habitat condition and use, and relationship to the six viability criteria). The team then summed the index scores to obtain a cumulative index score for each population in the ESU.

The team then assigned each population to one of three recovery "Tiers" using the following rule set. Regardless of score, if a population would have to be viable for the ESU as a whole to meet the Ruckelshaus *et al.* (2002) viability criteria, the team designated it as a Tier 1 population. Because Ruckelshaus *et al.* (2002) recommended at least two viable populations per bio-geographical region, in those bio-geographical regions that only have two populations, the team designated both as Tier 1 populations. In bio-geographical regions that have more than two populations, the team assigned populations to a tier based on a comparison of each population's cumulative index score and relationship to the ESU mean. For those populations that were not assigned to Tier 1, the team compared individual population scores around a mean cumulative score for all populations in the ESU and assigned populations to Tier 2 and 3 based on whether the populations were above or below the mean score (NMFS, 2010).

Draft Technical Framework—Results

The individual and cumulative index scores for each category and tier rankings are shown in Table 1, below.

Consistent with the rule set described above the team assigned to Tier 1 both populations in the three bio-geographical regions that contain only two populations: The North and South Nooksack populations in the Georgia Strait bio-geographical region; the Mid-Hood Canal and Skokomish populations in the Hood Canal bio-geographical region; and the Elwha and Dungeness populations in the Strait of Juan de Fuca bio-geographical region. In the Whidbey bio-geographical region, which has more than two populations, the team assigned to Tier 1 all populations with cumulative index scores above the ESU mean: Upper Skagit, Suiattle, Cascade, Upper Sauk, Lower Sauk, and Lower Skagit. In the Central/South Sound bio-geographical region, there were not populations with cumulative index scores above the ESU mean. The team therefore assigned to Tier 1 the two populations with the highest cumulative

index scores, the White and Nisqually Rivers. The team assigned the North and South Fork Stillaguamish and Skykomish populations to Tier 2 and the Snoqualmie, Sammamish, Cedar and Puyallup populations to Tier 3.

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Table 1. Puget Sound Chinook salmon population recovery valueassignments based on cumulative VSP, habitat, and delisting criteria index scores for the population compared with the cumulative ESU-wide mean index score.

Puget Sound Chinook Populations	VSP Block Rating: Cumulative SCORE for Identified Populations	Habitat Block Rating: Cumulative SCORE for Watershed	Criteria Block Rating	VSP Index Score (Pop score/ESU Mean)	Habitat Index Score (Pop score/ESU Mean)	Criteria Index Score (Pop score/ESU Mean)	Total Index Scores	Cum. Index Score Above-Below ESU Mean	Above/Below ESU Mean Population Tier Assignments 2/	Assigned Recovery Tier: Tier 1	Tier 2	Tier 3
Georgia Strait												
NF Nooksack 1/	22	12	6	1.25	1.05	1.15	3.45	Above	1/	X		
SF Nooksack 1/	22	12	6	1.25	1.05	1.15	3.45	Above	1/	X		
Whidbey Basin												
Upper Skagit	19	13	5	1.08	1.13	0.96	3.17	Above	1	X		
Suiattle 1/	20	13	6	1.14	1.13	1.15	3.42	Above	1/	X		
Cascade	19	13	6	1.08	1.13	1.15	3.37	Above	1	X		
Upper Sauk	20	13	5	1.14	1.13	0.96	3.23	Above	1	X		
Lower Sauk	16	13	5	0.91	1.13	0.96	3.00	Above	1	X		
Lower Skagit	20	12	6	1.14	1.05	1.15	3.34	Above	1	X		
NF Stillaguamish	18	13	4	1.03	1.13	0.77	2.93	Below	2		X	
SF Stillaguamish	17	13	4	0.97	1.13	0.77	2.87	Below	2		X	
Skykomish	21	10	4	1.20	0.87	0.77	2.84	Below	2		X	
Snoqualmie	16	10	4	0.91	0.87	0.77	2.55	Below	3			X
Central/South Sound												
Sammamish	9	7	4	0.51	0.61	0.77	1.89	Below	3			X
Cedar	14	9	4	0.80	0.79	0.77	2.35	Below	3			X
Green	15	8	5	0.85	0.70	0.96	2.51	Below	3		X 4	
Puyallup	13	9	5	0.74	0.79	0.96	2.48	Below	3			X
White	17	9	6	0.97	0.79	1.15	2.90	Below	2	X 3		
Nisqually	14	11	6	0.80	0.96	1.15	2.91	Below	2	X 3		
Hood Canal												
Skokomish 1/	15	12	6	0.85	1.05	1.15	3.05	Above	1/	X		
Mid-Hood Canal 1/	18	12	6	1.03	1.05	1.15	3.22	Above	1/	X		
Strait of Juan de Fuca												
Elwha 1/	21	14	6	1.20	1.22	1.15	3.67	Above	1/	X		
Dungeness 1/	20	14	6	1.14	1.22	1.15	3.51	Above	1/	X		
ESU-Wide Mean	18	11	5				3.00	(std. dev = 0.44				

1/ A population is assigned as "Tier 1" if the population is required in the NMFS (2005) recovery plan for ESU recovery (i.e. Suiattle) or it is 1 of 2 populations in a biogeographical region.

2/ Populations with a total index score greater than the ESU-wide mean index score are assigned as Tier 1. If the total index score for the population is less than 1 standard deviation below the ESU-wide mean index score, the population is assigned to be Tier 2. If the total index score for the population is greater than 1 standard deviation below the mean, the population is assigned to Tier 3.

3/ Consistent with the requirement that at least two populations within each biogeographical region be recovered to a low extinction risk status, the two populations with the highest total index scores in the Central/South Sound region were assigned as Tier 1 populations.

4/ To ensure that at least one population in the region is recovered at a sufficient pace to allow for its potential inclusion as a Tier 1 population if needed, the Tier 3 population with the highest total index score in the Central/South Sound biogeographical region was assigned as Tier 2.

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Management Implications

We implement our authorities under the ESA in a variety of contexts. Under section 7(a)(2), all Federal agencies must ensure, in consultation with us, that their actions are not likely to jeopardize the continued existence of threatened Puget Sound Chinook or adversely modify their critical habitat. Under section 4(d) of the ESA, we have prohibited unauthorized take of Puget Sound Chinook. We may authorize take through various mechanisms, including approval under the 4(d) rule or under sections 7 and 10 of the ESA. Each of our authorities has specific standards and requires specific analysis, but all are subject to the ultimate section 7 requirement to avoid jeopardy to the species and destruction or adverse modification of critical habitat. We define jeopardy to mean actions that are reasonably expected to directly or indirectly appreciably reduce the likelihood of survival and recovery of

the species (50 CFR 402.02). We have an analytical framework for determining whether actions will result in the destruction or adverse modification of critical habitat (NMFS, 2005).

When we analyze a proposed action (*e.g.,* timber or fisheries harvest, dock construction, roadway development) under one of our ESA authorities, we consider which populations and habitat areas are affected by the action. Not all populations and habitats have equal value for the survival and recovery of an ESU. In evaluating a proposed action, we therefore consider the impacts on each affected population and habitat area, and how those impacts affect the overall viability of the population or conservation value of the habitat.

The population rankings in Table 1 reflect the team's determination of each population's relative role in recovery of the listed ESU. The recovery rankings proposed in the framework will inform our assessment of the effects of proposed actions on overall viability and conservation value under the ESA. In general, we expect actions that harm high-value populations would be more likely to reduce the chances of species survival and recovery than actions that harm low-value populations. A similar logic would apply to actions that harm high-value habitat areas and those that do not. We emphasize that these concepts only apply when we exercise our authority under the ESA. In other contexts we will emphasize the importance of achieving broad sense recovery of all populations in Puget Sound and Washington's coast, to satisfy tribal treaty rights and recreational and commercial fishing goals. NMFS acknowledges that consultations among fisheries managers and persons interested in the PRA will be ongoing, particularly about its applicability to ESA determinations regarding habitat actions that affect long term productivity of populations. It is not the intent of the PRA to allow actions that preclude the future productivity of a population or the ability to change its future status.

Public Comment and Availability of Final Framework

We seek comments from the public on the draft framework through the end of the comment period. We will consider all comments received by the end of the comment period in formulating a final framework. The full document describing the framework and the technical team's work is available on our Web site and by mail upon request. We will make the final framework available on our Northwest Regional Office Web site and by mail upon request following consideration of comments received. We are specifically interested in comments and information regarding (1) technical documentation upon which the framework is based and (2) the population ranking methods the technical team applied in the framework.

Persons wishing to read the full technical document can obtain an electronic copy (i.e., CD–ROM) by calling (503) 231–5400, or by e-mailing a request to *Joanna.Donnor@noaa.gov,* with the subject line "CD–ROM Request for Puget Sound Chinook Salmon Population Framework", Electronic copies of this document are also available online via the NMFS' Web site, *http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/PS-Chinook-Plan.cfm.*

References

Federal Register Notices:

70 FR 37160. June 28, 2005. Final ESA listing determinations for 16 ESUs of West Coast salmon, and final 4(d) protective regulations for threatened salmonid ESUs.

70 FR 52630. September 2, 2005. Critical habitat for 12 Evolutionarily Significant Units (ESUs) of salmon and Steelhead (Onchorhynchus spp.) in Washington, Oregon and Idaho.

Literature Cited

16 U.S.C. 1532 Federal Endangered Species Act of 1973 as amended.

50 CFR 402.02. Code of Federal Regulations. Title 50—Wildlife and Fisheries. Part 402—Interagency Cooperation—Endangered Species Act of 1973, As Amended.

Appleby, A., 2005, Washington Department of Wildlife, Unpublished data.

Beechie, T., E. Buhle, M. Ruckelshaus, A. Fullerton, and L. Holsinger. 2006. Hydrologic regime and the conservation of salmon life history diversity. Conservation:Volume 130, Issue 4, pages 560–572.

Beecher and 14 others. 1999. A system for prioritizing water resource inventory areas in western Washington for protection and restoration of wild salmonids. Interagency Science Advisory Team (ISAT) Report to the Washington State Joint Natural Resources Cabinet. Office of the Governor, State of Washington. Olympia, Washington. 103 p.

Good, T.P., R.S. Waples, and P. Adams (editors). 2005. Updated status of federally listed ESUs of West Coast salmon and steelhead. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS–NWFSC–66, 598 p.

McElhany, P., M. H. Ruckelshaus, M. J. Ford, T. C. Wainwright. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U.S. Dept. of Commerce, NOAA Tech. Memo., NMFS–NWFSC–42, 156 p.

National Marine Fisheries Service (NMFS). 2004. Salmon Hatchery Inventory and Evaluation Report (SHIER) for Chinook salmon hatchery programs within the geographic boundaries of the Puget Sound Chinook salmon ESU. Hatcheries and Inland Fisheries Branch. Salmon Recovery Division. NOAA Fisheries Service. Lacey, Washington. 102 p.

NMFS. 2005. Memorandum from William T. Hogarth, Ph.D. (NMFS) to NMFS Regional Administrators regarding Application of the "Destruction or Adverse Modification" Standard under Section 7(a)(2) of the Endangered Species Act. November 7, 2005. Available from NMFS Protected Resources Division, 1201 NE. Lloyd Blvd., Suite 1100, Portland, OR, 97232.

National Marine Fisheries Service (NMFS) 2006. Final Supplement to the Shared Strategy's Puget Sound Salmon Recovery Plan. NMFS Northwest Region. November 17, 2006. 47 p.

National Marine Fisheries Service (NMFS) 2010. Puget Sound Chinook Salmon Population Recovery Approach (PRA), NMFS Northwest Region Approach for Distinguishing Among Individual Puget Sound Chinook Salmon ESU Populations and Watersheds for ESA Consultation and Recovery Planning Purposes. November XX, 2010. XX p. Available on the NMFS Web site at: *www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Puget-Sound/PS-Chinook-Plan.cfm.*

Ruckelshaus, M.H., K. Currens, R. Fuerstenberg, W. Graeber, K. Rawson, N. Sands, and J. Scott. 2002. Planning ranges and preliminary guidelines for the delisting and recovery of the Puget Sound Chinook salmon Evolutionarily Significant Unit. Puget Sound Technical Recovery Team. April 30, 2002. 19 p. Available on the Internet at: *http://research.nwfsc.noaa.gov/trt/trtpopESU.pdf.*

Ruckelshaus, M.H., K.P. Currens, W.H. Graeber, R.R. Fuerstenberg, K. Rawson, N.J. Sands, and J.B. Scott. 2006. Independent populations of Chinook salmon in Puget Sound. U.S. Dept. Commer., NOAA Tech. Memo. NMFS–NWFSC–78, 125 p.

Dated: December 22, 2010.

Susan Pultz,

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DEPARTMENT OF COMMERCE

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Endangered and Threatened Species; Take of Anadromous Fish

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and