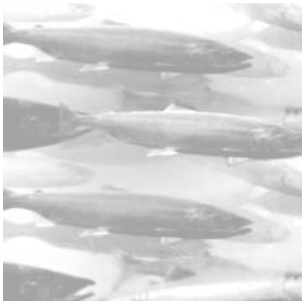
RECORD OF DECISION

Puget Sound Chinook Harvest Resource Management Plan
Final Environmental Impact Statement

EIS Prepared by

National Marine Fisheries Service Northwest Region

With assistance from the Puget Sound Treaty Tribes and
Washington Department of Fish and Wildlife



Record of Decision

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I. DECISION TO BE MADE

This Record of Decision (ROD) documents the determination by the National Marine Fisheries Service (NMFS), pursuant to Limit 6 of the Endangered Species Act (ESA) 4(d) Rule (50 CFR §223.203(b)(6)), that the implementation of activities described in the Puget Sound Chinook Harvest Resource Management Plan (RMP), jointly developed by the Puget Sound Treaty Indian Tribes and the Washington Department of Fish and Wildlife (WDFW) would not appreciably decrease the likelihood of survival and recovery of the Puget Sound Chinook Salmon Evolutionarily Significant Unit (ESU). NMFS issues this ROD in compliance with the agency decision-making requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) NEPA regulations at 40 Code of Federal Regulations (CFR) Parts 1500-1508, and NMFS' NEPA implementing procedures found at National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6. This decision is based upon the analysis included within the Puget Sound Chinook Harvest Resource Management Plan Final Environmental Impact Statement (FEIS), issued December 30, 2004; an ESA Section 7(a)(2) Biological Opinion and Magnuson-Stevens Essential Fish Habitat Consultation issued by NMFS (Biological Opinion); and NMFS' Evaluation of the Puget Sound Chinook Resource Management Plan pursuant to the Salmon and Steelhead ESA 4(d) Rule (Evaluation). The latter two documents can be found in Appendix H of the FEIS. Refer to Appendix A for a list of acronyms used in the ROD.

This ROD: a) identifies the alternatives considered in reaching the decision; b) identifies the environmentally preferred alternative; c) states NMFS' decision and presents the rationale for its decision; and d) states whether all practicable means to avoid or minimize environmental harm from implementation of the selected alternative have been adopted (40 CFR 1505.2).

II. INTRODUCTION

The FEIS analyzes possible environmental and socioeconomic impacts from the implementation of a harvest resource management plan which regulates salmon harvest and steelhead net fisheries within Puget Sound and the Strait of Juan de Fuca that take listed Puget Sound chinook salmon, during the 2005-2009 fishing seasons. The NMFS *proposed action* is implementation of the Puget Sound Chinook Harvest Resource Management Plan , jointly-developed by the WDFW and the Puget Sound treaty tribes (co-managers), under Limit 6 of the ESA 4(d) Rule for the 2005 through 2009 fishing seasons. The RMP also includes implementation, monitoring, and evaluation procedures designed to ensure fisheries are consistent with the RMP's objectives for conservation and use. NMFS must make a determination that the RMP, as proposed and implemented by the co-managers, does not appreciably reduce the likelihood of survival and recovery of listed Puget Sound chinook salmon (50 CFR 223.203[b][6][i]). NMFS' determination under the 4(d) Rule is the Federal action that triggers review under NEPA (NAO 216.6.03[2][a]). An RMP accepted by NMFS under the 4(d) Rule provides protection for listed chinook salmon; while providing the co-managers with some degree of certainty for the implementation of the RMP to provide harvest opportunity and the exercise of tribal fishing rights.

The *purposes of the action* are to ensure the sustainability of Puget Sound chinook salmon by conserving the productivity, abundance and diversity of the populations within the Puget Sound Chinook ESU while optimizing harvest of abundant Puget Sound salmon, and to meet the criteria under Limit 6 of the ESA 4(d) Rule. Implementation of the RMP is also intended to (1) provide equitable sharing of harvest opportunity among tribes, and among treaty and non-treaty fishers pursuant to U.S. v. Washington and U.S. v. Oregon; (2) achieve the guidelines for allocation of harvest benefits and conservation objectives for chinook salmon under the Pacific Salmon Treaty; (3) protect Indian treaty fishing rights; and, (4) meet federal treaty trust responsibilities.

The *proposed action is needed* to meet the dual goals of recovering ESA-listed anadromous fish and providing self-sustaining, harvestable populations of anadromous salmonids. Substantial declines in these populations have occurred as a result of (1) loss, destruction, or degradation of estuarine, nearshore and tributary habitat; (2) overharvest; (3) interaction with hatchery-reared fish; and (4) habitat inundation, blockage, and mortality from construction and operation of dams and reservoirs since European settlement of the Pacific Northwest. More specific detail regarding the purpose and need of the Proposed Action is found in Subsection 1.3, Volume 2 of the FEIS.

The lead agency for the FEIS is the Northwest Region of NMFS. The FEIS was prepared to address regulatory requirements of NMFS, pursuant to NEPA, the ESA, the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and Executive Order No. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations). The proposed action requires regulatory approval and a determination that the RMP has met the requirements of Limit 6 of the ESA 4(d) Rule prior to implementation.

Application of Limit 6 to the proposed RMP would ensure that in conducting fishery activities, the co-managers would not be subject to ESA section 9 take prohibitions because these activities would be conducted in a way that contributes to conserving the listed ESUs, or would be governed by regulations that adequately limit impacts to listed salmon. The RMP encompasses commercial, recreational, ceremonial, and subsistence salmon fisheries potentially affecting the listed Puget Sound Chinook ESU within the marine and freshwater areas of Puget Sound, from the entrance of the Strait of Juan de Fuca inward. Harvest objectives specified in the RMP account for fisheries-related mortality of Puget Sound chinook throughout the migratory range of this species – from Oregon and Washington to Southeast Alaska. The RMP also includes implementation, monitoring, and evaluation procedures designed to ensure fisheries are consistent with the RMP's objectives for conservation and use. The RMP does not include the specific details of an annual fishing regime – i.e., where and when fisheries occur; what gear will be used; or how harvest is allocated among gears, areas or fishermen. Salmon abundance is highly variable from year to year, both among chinook populations and other salmon species, requiring managers to formulate fisheries to respond to the population abundance conditions particular to that year. Therefore, the RMP provides the framework and objectives against which the co-managers must develop their annual action-specific fishing regimes to protect Puget Sound chinook salmon and meet other management objectives.

The Draft Environmental Impact Statement (DEIS) for this project was published on April 16, 2004 for public review (69 FR 20609). Public comments received on the DEIS included detailed scientific comments, expressions of opinion on various issues, and expressions of preference for different alternatives. Specific comments were identified and read by the appropriate resource specialists and NMFS, who prepared individual detailed responses. These comments and their associated responses are provided in Section 3 of FEIS Volume 1. The FEIS incorporates revisions based on public comments to the DEIS. Comments on the associated RMP were addressed through a separate public review process.

The notice of availability of the FEIS was published on December 30, 2004 (69 FR 78410). NMFS received no additional comments on the final documents from the Environmental Protection Agency (EPA) or other interested parties following the release of the FEIS. Several clarifications to the text of the Evaluation (included in Appendix H of the FEIS) were made as a result of internal NMFS review. These clarifications do not alter the conclusions in NMFS' Biological Opinion or NMFS' conclusion that the RMP meets the criteria for Limit 6 of the ESA 4(d) Rule.

III. DESCRIPTION OF PROJECT ALTERNATIVES AND ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

The FEIS addressed four action alternatives, including the proposed action and a no-harvest alternative. The alternatives selected for detailed analysis represent different management frameworks from which to develop annual fishing regimes. Except for *Alternative 4* (No Action/No Authorized Take), each alternative would provide a flexible framework for managing fisheries to meet conservation and use objectives. Each year, the co-managers would use the framework to develop annual fishing regimes for Puget Sound fisheries that are responsive to the year-specific circumstances related to the status of populations and other resource use objectives. Each alternative represents a distinctly different approach to setting management objectives, and each would have different outcomes in terms of escapement levels, harvest-related mortality, long-term resource protection, and harvest opportunity. The differences among the alternatives arise from 1) the type of management framework, and 2) the geographic scope of the fisheries. The predicted outcomes from implementing each of the alternatives are described in Section 4 of the FEIS, and summarized in Table 2 below. Each alternative (including the no action alternative) provides some level of protection for all anadromous salmonid species. However, NMFS is limited in its ability to pursue additional protective measures. NMFS must evaluate the Resource Management Plan that is provided to it by the co-managers. If NMFS finds that the Proposed Action meets the criteria of Limit 6 of the 4(d) Rule and will not appreciably reduce the likelihood of survival and recovery of the listed species, then it must issue that finding and does not have the authority to require changes to the Proposed Action.

Each alternative was evaluated for four scenarios that captured the general range in magnitude of abundance and the level of Puget Sound chinook salmon harvest in Canadian and Alaskan fisheries that is reasonably expected to occur across the duration of the Proposed Action (the 2005–2009 fishing seasons), in order to capture the range of anticipated impacts of the Proposed Action and its alternatives. A more detailed discussion of the basis for and choice of these scenarios is presented in Subsection 4.2, Volume 2 of the FEIS. The following discussion summarizes the alternatives as described in the FEIS and describes the public review process used to develop the alternatives.

Alternative 1 (Proposed Action/Status Quo Alternative) represents the conservation measures and harvest management objectives for Puget Sound chinook salmon, as defined in the RMP, over a 5-year time period and would be evaluated under Limit 6 of the ESA 4(d) Rule. Because it most closely approximates current baseline conditions and is fundamentally the continuation of a current management activity, it also serves as the baseline for comparison with the other action alternatives[1]. *Alternative 2* (Escapement Goal Management, Management Unit Level), provides an alternate management strategy to the proposed action relying on fixed escapement goal management for each Puget Sound chinook management unit. Fisheries would occur where the abundance of Puget Sound chinook management units passing through those areas were predicted to be in excess of their goals. *Alternative 3* (Escapement Goal Management, Population Level, Terminal Fisheries) is very similar to *Alternative 2* except that it further refines the management unit and the geographic scope of fisheries. *Alternative 4* (No Action/No Authorized Take of Listed Puget Sound Chinook) would eliminate fishing-related mortality of listed Puget Sound chinook in salmon fisheries within the Strait of Juan de Fuca and Puget Sound. It is important to note that *Alternative 4* is inconsistent with several of the elements of the

[1] This may raise some confusion in relation to the settlement agreement with Washington Trout v. Lohn, in which no authorized take of listed chinook in Puget Sound (*Alternative 4*) is termed the no action alternative to describe the case where literally no harvest of listed Puget Sound chinook salmon would occur. For the purposes of this analysis, *Alternative 1* (the Proposed Action) is the baseline for comparison of alternatives under NEPA, and Alternative 4 represents the case in which the Proposed Action would not occur.

purpose and need for the Proposed Action, and would not be considered were it not one of the alternatives identified for analysis in the settlement agreement to Washington Trout v. Lohn (see Subsection 2.3.2, Volume 2 of the FEIS). However, it is useful in providing an upper-bound estimate of the decrease in mortality on fish and wildlife species affected by Puget Sound salmon fisheries, and an upper-bound estimate of socio-economic effects. The FEIS also considered, but eliminated from detailed study as independent alternatives, tribal-only fisheries and variations thereof, changes in hatchery production or hatchery operations (including no hatchery augmentation), exploitation rate management, increases or reductions in harvest additional to that already considered in the original alternatives, fixed escapement goals with incidental-only levels below goal regime, and specific use of selective gear. These alternatives were eliminated primarily because they were inconsistent with the Purpose and Need, redundant with alternatives already considered in detail, or technically infeasible.

NMFS considered public input in the development of these alternatives. Public testimony was invited on the issues and alternatives that should be considered in the Environmental Impact Statement (EIS). NMFS received two sets of written comments on issues and alternatives to be included in the EIS. These alternatives were refined after the initial public scoping process. The resulting alternatives were analyzed in the DEIS, published on April 16, 2004. Although the DEIS was revised based on public comment, the alternatives remained essentially unchanged. The RMP (*Alternative 1*) is the result of over six years of iterative planning and negotiations between the parties, to establish a longer-term harvest management framework under Limit 6 of the ESA 4(d) Rule. The following are brief descriptions of the project alternatives. Table 1 compares the major elements of the four alternatives. Further detailed descriptions and information on the project alternatives can be found within the FEIS.

A. Alternative 1 (Proposed Action/Status Quo Alternative)

Alternative 1 represents the Puget Sound chinook harvest management framework proposed by the co-managers. Although management objectives have been updated as new information has become available and the co-managers have continued to refine their approach, it is the same general management framework that has been implemented since 2000 and, therefore, serves as the basis of comparison against the other three action alternatives. All marine and freshwater areas currently fished[2] would remain available under *Alternative 1*, subject to shaping by the co-managers to address conservation or use objectives.

Under *Alternative 1*, Strait of Juan de Fuca and Puget Sound salmon fisheries would be managed for a mixture of management-unit-specific escapement thresholds and exploitation rate ceilings. The type of objective would vary by management unit. Several of the management units encompass two or more populations. One half of these management units would be managed for the weakest population component and to avoid falling below the low escapement thresholds for all populations, and fisheries within the Puget Sound Action Area would be managed to achieve the conservation objectives for the weakest chinook management unit. Except for the Nisqually River management unit, management units managed for escapement thresholds are also coupled with ceilings on exploitation rates in mixed-stock fisheries. When abundance is insufficient to meet the escapement thresholds, additional actions would be taken to come as close to the goal as possible.

Under *Alternative 1*, all populations have low abundance thresholds and all management units have upper management thresholds that trigger additional fishery responses when escapement is anticipated to be lower or higher than these thresholds. For all management units, when abundance is projected to result in escapement

[2] Not all freshwater areas are currently fished by the co-managers because of ongoing conservation concerns, or due to fisheries in the area being infeasible.

below the low abundance threshold, or the amount of exploitation in Alaskan and Canadian fisheries would make it difficult or impossible to meet harvest objectives, exploitation rates in southern U.S. fisheries would be held to rates no greater than those rates defined by a minimum fishing regime. The minimum fishing regime is designed to preserve an acceptable level of harvest opportunity on other salmon species and hatchery chinook stocks; protect the chinook salmon populations; and provide a minimum level of fishing that allows some exercise of tribal treaty rights.

Fisheries would also be conducted in a manner that would minimize impacts to the diversity of chinook salmon populations within the Puget Sound Action Area. For example, to minimize potential size, timing, and age-selective effects resulting from terminal fisheries, pulsed (i.e., short-duration) openings would be scheduled over the duration of the run. *Alternative 1* also includes monitoring, enforcement and reporting provisions.

B. Alternative 2 (Management Unit Escapement Goal)

Alternative 2 describes an alternative harvest management strategy to that of the RMP. Under *Alternative 2*, Puget Sound and Strait of Juan de Fuca salmon fisheries would be managed to achieve fixed escapement goals for each Puget Sound chinook management unit. All marine and freshwater areas currently fished would remain available under *Alternative 2*, subject to shaping by the co-managers to address conservation or use objectives. Fisheries would occur where the abundance of Puget Sound chinook management units passing through those areas were predicted to be in excess of their goals. Although, there would be no general restriction on where the fish could be caught as long as the fisheries management units were meeting their escapement goals, the subsequent analysis in Section 4 of the FEIS demonstrates that, for the abundances expected to occur over the next five years, most fishing would be limited to terminal areas, i.e., locations containing only populations returning to a single river system.

In general, the analysis of *Alternative 2* assumes that the terminal fishery structure is the same as that of *Alternative 1*, and does not introduce any new fisheries that have not occurred in recent years, since this would be highly speculative. In the Strait of Juan de Fuca region, very limited harvest of chinook, coho, and steelhead would occur only in the Hoko River. In the North Puget Sound region, limited chum and steelhead fisheries would occur in the Nooksack and Skagit Rivers. Available chinook abundance for the Stillaguamish management unit would allow a small chum fishery, moderate chinook, coho and pink fisheries in the Stillaguamish River and a small chum fishery in Tulalip Bay. In the South Puget Sound region, available chinook salmon abundance would allow moderate fisheries for coho and chum salmon, and limited fisheries for pink salmon. In Hood Canal, available chinook salmon abundance would allow moderate fisheries for coho, pink and chum salmon relative to *Alternative 1*. *Alternative 2* also includes monitoring, enforcement and reporting provisions.

C. Alternative 3 (Population Escapement Goal Management-Terminal Fisheries Only)

Alternative 3 is similar to *Alternative 2* in management strategy, but further refines the management unit and the geographic scope of fisheries: 1) Puget Sound and Strait of Juan de Fuca salmon fisheries would be managed to meet population-specific escapement goal objectives rather than management unit-specific goals and, 2) salmon fisheries that would harvest listed Puget Sound chinook would not occur within the Puget Sound Action Area outside terminal areas of Puget Sound and the Strait of Juan de Fuca. There would be no salmon fishing-related mortality of listed Puget Sound chinook for populations for which abundance was not expected to meet the escapement goal of the population.

Under *Alternative 3*, terminal fisheries would occur where Puget Sound chinook salmon abundance in excess of the goals were predicted. In general, *Alternative 3* assumes that the terminal fishery structure would be the same as that of *Alternative 1*, and would not introduce any new fisheries that have not occurred in recent years even with the elimination of marine commercial fishing opportunities. Except for fisheries in Tulalip Bay and the Stillaguamish River, fisheries under *Alternative 3* would be identical to those under *Alternative 2*. Population abundance for the South Fork Stillaguamish population would not meet its escapement goal and so the Tulalip Bay and Stillaguamish fisheries that would occur under *Alternative 2* would not occur under *Alternative 3*. *Alternative 3* also includes monitoring, enforcement and reporting provisions.

D. Alternative 4 (No Action/No Authorized Take)

Under *Alternative 4*, fishing-related mortality of listed Puget Sound chinook would be eliminated in salmon fisheries within the Strait of Juan de Fuca and Puget Sound. Therefore, it is assumed that those salmon fisheries within the Puget Sound Action Area that harvested one or more listed Puget Sound chinook consistently from year to year would be closed. This would preclude all salmon fisheries in marine areas and most freshwater fisheries. Only freshwater fisheries for chum from December through January, and freshwater fisheries for steelhead from December through March would be open. This would result in limited chum and/or steelhead fisheries in the Strait of Juan de Fuca tributaries, Nooksack, Skagit, Green, and Skokomish Rivers. *Alternative 4* also includes monitoring, enforcement and reporting provisions. However, with the severe curtailment of salmon fishing, resources would generally be redirected toward other species and some programs would be eliminated.

Table 1. Comparison of alternatives considered for detailed analysis.

Element	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Management Unit Escapement Goal	Alternative 3 – Population Escapement Goal/ Terminal Fisheries Only	Alternative 4 – No Action/No Authorized Take
Management objectives	Exploitation rate ceilings Escapement thresholds	Fixed escapement goals	Fixed escapement goals	No take of listed chinook within the Puget Sound Action Area.
Focus of management	Weak population	Weak population	Weak population	Not applicable
Access	All marine and freshwater areas of Puget Sound	All marine and freshwater areas of Puget Sound	Freshwater areas only	Marine areas closed. Freshwater areas closed April–November.
Level of management	Management Unit, most managed for weakest population	Management Unit	Population	Not applicable
Protection of ESU diversity	Fisheries shaped to minimize timing, age, size selectivity	Same as Alternative 1	Same as Alternative 1	Same as Alternative 1 for fisheries on other salmon that remain open.
Fishing at low abundance	Minimum Fishing Regime	No fishing	No fishing	No fishing
Monitoring	Fishery Monitoring Escapement Monitoring Biological Sampling Coastwide Coded-Wire-Tag Indicator Stock Program Smolt Production Monitoring	Monitoring would continue as in Alternative 1, although fishery monitoring in marine areas would likely be greatly reduced given the low expectation of fisheries in these areas.	Monitoring would continue as in Alternative 1, <u>except</u> fishery monitoring in marine areas would be eliminated.	Monitoring would continue as in Alternative 1, <u>except</u> fishery monitoring in marine areas would be eliminated and the biological sampling would likely be reduced.
Enforcement	Puget Sound-wide coverage in marine and freshwater areas	Same as Alternative 1 except marine patrols would probably be redirected when the likelihood of marine fisheries was low. Freshwater patrols as in Alternative 1.	Marine patrols redirected. Freshwater patrols as in Alternative 1.	Redirected to other natural resources.
Reporting	Fishery results Escapement estimates Biological sampling results	Reduced from Alternative 1.	Reduced from Alternative 1	Reduced or eliminated from Alternative 1.

E. Alternatives Considered But Eliminated From Detailed Analysis

During the scoping process for the EIS and public review of the DEIS, several other alternatives were considered but eliminated from further analysis as independent alternatives. The primary reasons for excluding these alternatives were that: (1) the alternative did not meet the purpose and need for the proposed action; (2) the alternative was encompassed by alternatives already under consideration; or (3) there was insufficient information provided by the commenter to analyze the alternative. The following is a brief discussion of the eliminated alternatives, and the reasons for not considering them as alternatives to be analyzed. A more detailed explanation for why NMFS eliminated these alternatives from detailed study is provided in Subsections 2.2.1 through 2.2.3, Volume 2 of the FEIS, and in the response to public comments in Section 3, Volume 1 of the FEIS.

A tribal-only fishing alternative was suggested during public scoping and in comments on the DEIS. As described, this alternative would provide the 4(d) Rule take limitation on harvest activities only for treaty tribal fishing, would estimate the level of tribal fisheries required to satisfy federal trust responsibilities to the Puget Sound treaty tribes, and would evaluate configurations of those fisheries for all salmon species that would have a high probability of achieving conservation goals at the management unit level. This alternative is not consistent with the Purpose and Need of the Proposed Action to: 1) provide for tribal and non-tribal fishing opportunity co-managed under the jurisdiction of U.S. v. Washington, and 2) provide equitable sharing of harvest opportunity among tribes, and among treaty and non-treaty fishers pursuant to U.S. v. Washington and U.S. v. Oregon. Tribal-only fishing plans would more likely be submitted under the Tribal 4(d) Rule. The Purpose and Need of the Proposed Action also includes the protection of tribal treaty rights and NMFS' trust responsibilities. Although extremely important, they are two of several elements in the Purpose and Need and the alternatives must be designed to address them all and not to evaluate the value of one element of the Purpose and Need against another.

A variation on the tribal-only fishing alternative was also suggested that would combine tribal-only pre-terminal fisheries with tribal/recreational non-tribal terminal fisheries. However, insufficient detail was provided to evaluate the alternative. Modelers need a description of key management criteria before they can shape the model runs and analyze an alternative; e.g., the type of management objectives, the resolution of management (population or management unit), conditions or limitations on fisheries or fishing impacts when low abundances would warrant additional protective measures. If the key management criteria/values of *Alternatives 1,2, or 3* were applied to this proposed tribal and non-tribal fishing plan, the end result on chinook salmon population status would be very similar to the results of the analyses of these alternatives evaluated in the FEIS. For example, if it were based on fixed-goal management, the results would be very similar to *Alternative 2* or *3* because, as in those alternatives, the abundance for several management units would be insufficient to allow fishing in pre-terminal areas. Without elaboration on key management criteria pertaining to chinook salmon population status, the new proposal is, in essence, a redistribution of harvest between tribal and non-tribal users rather than a new type of conservation measure or management framework for Puget Sound chinook salmon. This stands in contrast to the alternatives that were analyzed, where the guidance provided by the settlement agreement pursuant to Washington Trout v. Lohn made clear the difference in conservation approach to be applied for each alternative.

A no-hatchery-augmentation alternative would assume that hatchery augmentation programs and the fish produced from those programs do not exist. It has been excluded from further detailed analysis because it is not reasonable or practicable. Even if the hatchery programs were discontinued in 2005, substantial numbers of hatchery fish from previous hatchery releases will return to Puget Sound in 2005 and over the next several years. Given that these fish will return independently of the conduct of future hatchery programs, it is not reasonable to expect that the co-managers would develop a RMP that did not provide for harvest of these

hatchery fish in the interim, particularly since many of these fish were produced specifically for harvest. This alternative is also technically infeasible to assess with current tools and available data, since it is not yet possible to distinguish returning hatchery adults from wild adults for many Puget Sound chinook salmon populations. Although most Puget Sound hatchery chinook salmon are currently mass-marked, some Puget Sound facilities will not have all ages of mass-marked chinook returning until 2008 at the earliest. The RMP covers the transitional period that ends with 100 percent mass-marking of hatchery fish. Finally, most of the reasons suggested for including this alternative (broodstock takes, prey competition, loss of genetic fitness, and migration barriers) are not affected by fishery activities. An analysis of harvest activities only provides information about the change in escapement, catch and exploitation rate, and would not provide the information necessary to address the reasons given for the request. These issues would be more appropriately addressed in a NEPA analysis of proposed hatchery operations, if necessary. A pending NEPA review is currently under development for the Puget Sound salmon hatchery program. Fishery-related hatchery issues, such as straying and possible over-fishing, are addressed in the alternatives already evaluated in this EIS. Therefore, it is not necessary to develop and analyze an additional alternative in order to evaluate them.

Suggestions were also made to explore alternatives with hatchery production reduced from that of current programs, although the productions levels were not specified. Evaluation of the effects of decreased hatchery chinook salmon production levels on natural population abundance is outside of the scope of the Proposed Action. Alternatives to current hatchery chinook salmon production levels in Puget Sound, including increases and decreases in juvenile fish production levels, will be evaluated within a separate on-going EIS being conducted by NMFS and directed at regional hatchery programs in Puget Sound.

An exploitation-rate management alternative would manage Puget Sound and Strait of Juan de Fuca salmon fisheries for a constant total exploitation rate on each Puget Sound chinook management unit regardless of the expected abundance. This alternative is encompassed within *Alternative 1* (Proposed Action/Status Quo).

A more liberal harvest regime would increase the fishing-related mortality in Puget Sound salmon fisheries above those proposed in the RMP. CEQ regulations require that the action agency identify a reasonable range of alternatives (CEQ Regulations §1502.14), and that the agency thoroughly assess the impacts of the Proposed Action and identified alternatives on the natural, human, and built environment (CEQ Regulations §1502.16). The federal action under consideration through NEPA is the 4(d) determination on the RMP. NMFS must evaluate the harvest management plan that is provided to it by the co-managers. If NMFS finds that the Proposed Action meets the criteria of Limit 6 of the 4(d) Rule and will not appreciably reduce the likelihood of survival and recovery of the affected ESU, then it must issue that finding. NMFS' evaluation of the RMP concludes that it would not appreciably reduce the likelihood of survival and recovery of the Puget Sound Chinook ESU. The CEQ regulations do not require that the lead agency impose an activity or alternative with more impacts than that being proposed by the applicant. Given the complexity of the Puget Sound Chinook ESU, there are multiple scenarios that would meet ESA requirements for the ESU; however, satisfying ESA concerns is only one element of the Purpose and Need of the Proposed Action. In general, NMFS does not support the concept of analyzing alternatives that would result in greater environmental impacts than would occur under the Proposed Action (such as increased harvest beyond the proposed levels).

One alternative was suggested that would manage chinook salmon by brood year under a fixed escapement goal regime with valid, incidental-only levels of harvest below goals for individual management units. Only age-4 and older females would be included in the derivation of harvest objectives or in escapement assessment. Although an overall description of the general components of the approach were provided, insufficient specific detail was provided to analyze this proposed additional alternative, e.g., management objectives, the unit of management (population or management unit), conditions

or limitations to fisheries or fishing impacts when low abundances would warrant additional protective measures, and definition of valid incidental catches. Given the information provided, NMFS concluded that the suggested alternative was not technically feasible to evaluate or implement within the available time of the Proposed Action and that the overall management strategy was similar to that of the Proposed Action (*Alternative 1*). Since fisheries are planned on an annual basis, the technical tools, used to assist planning, evaluate mortality on an annual, not a brood year basis. Post season evaluation of the fisheries includes assessment of mortality both on a brood year and annual year basis. Results from modeling have shown that annual exploitation rates will be approximately equal to brood-year exploitation rates when averaged over the appropriate period. Modifying annual technical modeling tools to calculate brood-year-based exploitation rates could easily take three or more years to complete the extensive rewriting of programming code, debugging and model-run trials needed. Therefore, the necessary modifications to the management tools probably would not be completed in time for implementation during the period of the Proposed Action (2005–2009). In addition, current fishery planning models estimate fisheries mortality and escapement for the proposed fisheries on each age class, from age two to age five-year-old adults. The number of age three- to five-year adults projected to escape to the spawning grounds establishes the status of each stock in a given fishery management year. Since annual forecasts detect weak brood years, and, over time, brood-year exploitation rates approximate fishing-year rates, and post season analysis can identify and track weak brood years, there does not appear to be a clear benefit to moving to brood-year management for annual planning, given the added management complexity and technical resources required by such an approach. Finally, from the general description, it appears that the basic management strategy is similar to that of *Alternative 1* (i.e., incidental impacts only, unless the escapement level of the target run is projected to exceed an upper threshold). However, the suggested additional alternative could be less restrictive, and potentially allow more aggressive fishing, than under *Alternative 1*, depending on how incidental catch levels were defined (See answer to SW-5, Section 3, Volume 1, of the FEIS for more specific detail).

Available information indicates that three-year-old spawners comprise, on average, a minor proportion of Puget Sound natural-origin spawning populations in each year (8 to 20%) (PSTRT 2003a, PSTRT 2003b; PSTRT 2003c; PSTRT 2003d; PSTRTe; PSTRT 2003f; PSTRT 2003g). However, the proportion of three-year-old spawners can vary substantially from year to year, comprising up to 42 percent of the spawning population (PSTRT 2003e) in some years. The fact that three-year-old female spawners continue to consistently contribute to spawning populations, although in low percentages, together with their substantial size and fecundity, suggests that they are an important segment of diversity expressed by the species and at certain times, when environmental conditions change suddenly, may be essential to maintaining the viability of the population. For these reasons, NMFS sees no reason to exclude three-year-old females from its development of population harvest standards, evaluation of the performance of the alternatives in the EIS, or assessment of fishing regime performance in the future. As additional information becomes available on age contribution, sex ratio and other biological characteristics, all the alternatives evaluated in the EIS would use this information to revise key parameters, assumptions, and harvest objectives through the use of adaptive management.

A variation of the fisheries regime for Oregon Coast coho was also suggested. The Oregon Coast coho management framework uses a matrix of ancestor brood survival and expected marine survival to determine harvest levels on Oregon Coast coho management units. Fisheries are managed for the weakest unit. In addition, the proposed alternative would establish population-specific escapement goals by river reach. The latter was determined not to be technically feasible to implement although the general management framework was included in the range of alternatives analyzed. Data is currently insufficient to establish escapement goals for each river reach. Also, such an approach might not be practical or desirable to implement. Environmental and habitat conditions are highly variable from year to year, and spawning adults seek out the best habitat as defined by the conditions in that year. *Alternative 3* evaluates the implementation of a fixed-escapement goal

approach to harvest management with escapement goals at the individual population level. Although *Alternative 3* also mandates terminal fisheries only, removing the geographical restriction on the fisheries would not change the results because the anticipated abundances for many populations would preclude mixed-stock fisheries under the fixed-escapement goal approach represented by *Alternative 3*. The Puget Sound RMP (*Alternative 1*) also uses a weak-stock management approach, although harvest management objectives are specific to management units. The twenty-two Puget Sound chinook populations are divided into 14 management units, eleven of which are explicitly managed for the weakest population in the management unit. Therefore, the original range of alternatives was inclusive of the management approach in the suggested alternative.

Reducing the harvest of Puget Sound chinook in Canadian fisheries was suggested because 50 percent or more of the harvest related mortality on some Puget Sound chinook populations, particularly those in critical condition, occurs in salmon fisheries off of British Columbia. Two of the harvest scenarios (Scenarios A and C) evaluated in the EIS represent a "reduced Canadian fishery mortality" condition. However, Canadian fisheries affecting Puget Sound chinook and other salmon are governed by existing agreements developed pursuant to the Pacific Salmon Treaty. Those agreements are not part of the Proposed Action, although it influences the shaping of annual fishing regimes in Puget Sound. Therefore, it is outside the scope of the Proposed Action. The existing arrangements were agreed to in 1999, following several years of very intense bilateral negotiations between the U.S and Canadian governments. The pertinent fishing regimes apply through 2008, except for the provisions governing Fraser River sockeye and pink salmon, which expire after the 2010 fishing season. Only limited opportunities and mechanisms exist to modify the agreed regimes. Working through their representatives to the Pacific Salmon Commission, the body emplaced to oversee implementation of the Pacific Salmon Treaty, NMFS and the state and tribal co-managers meet annually to discuss the status of salmon stocks and fisheries with their Canadian counterparts. These discussions occur at both the technical and policy levels, and focus on ensuring that the applicable provisions of the agreed regimes are faithfully implemented by both countries. Both countries are obligated to those regimes unless otherwise agreed. It is quite probable that U.S. representatives to the Pacific Salmon Commission process will continue to argue – as they have in the past – for management measures that would further reduce Puget Sound chinook salmon mortality in Canadian fisheries. However, no one can predict the outcome of those discussions. That is why the duration of the Proposed Action in the EIS coincides with the negotiation of a new Pacific Salmon Treaty agreement in 2009. Until then, the EIS must take into account the terms of the existing Pacific Salmon Treaty Agreement when evaluating alternatives within the scope of the Proposed Action; i.e., steelhead net and salmon fisheries within Puget Sound.

The use of selective gear, such as tangle nets, or reduced set times or net lengths for purse seines was suggested as a modification to *Alternatives 2 and 3* in order to selectively harvest target species and stocks and non-lethally release non-targeted chinook stocks. Although alternative fishing gears such as "tangle nets" are not specifically addressed in the RMP (*Alternative 1*), many gear-related measures have been and will be implemented under the Proposed Action that reduce mortality on released animals (including chinook salmon), or reduce such encounters (as with seabirds). Limitations on set time or net length can reduce fishing effort (and therefore, overall catch), but do not contribute to increased selectivity of that gear (i.e., do not increase the selectivity of the catch). Purse seines, reef nets, beach seines and angling gear are highly selective gears from which non-targeted fish or species can be released with low incidental mortality. Additional selectivity measures, e.g., recovery boxes, reef net selective release, cut meshes, mark-selective fisheries, chinook non-retention in the harvest of other species, will be implemented under the RMP, as appropriate, in order to reduce mortality. However, all implementation of selective fishing gear has some associated mortality associated with it, even if it is very low (Columbia River Compact 2004; Ruggerone and June 1996; Vander Haegen 2002a; Vander Haegen 2002b; Vander Haegen 2001; Vander Haegen 2003). Because of the associated non-retention mortality, fisheries could not occur, even with the use of selective

gear, under *Alternative 2 or 3* when abundance is below the spawning escapement objective for either management units (*Alternative 2*) or populations (*Alternative 3*).

IV. THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

As required by the CEQ's NEPA implementing regulations, NMFS must identify an environmentally preferable alternative based on its review of the NEPA analyses and other applicable analyses (40 CFR Part 1505.2(b)). The environmentally preferred alternative is the alternative that results in the least damage to the biological and physical environment, and that best protects, preserves, and enhances historic, cultural, and natural resources. Although NEPA regulations require the identification of an environmentally preferred alternative, the regulations do not require the selection of this alternative. As provided in the regulations, the agency may take other factors into consideration when arriving at a decision on which alternative is implemented. The EIS analyzed the effects of the fisheries on the human, natural and built environment within the Puget Sound Action Area for each of the alternatives, as summarized in Table 2.

Based on the comparison of effects presented in Table 2, *Alternative 4* (No Action/No Authorized Take of Listed Puget Sound Chinook) is the Environmentally Preferable Alternative because it is estimated to have, among the four alternatives considered, the most beneficial or least adverse effect on biological resources in terms of effects on salmonids (listed and unlisted) and non-salmonids, fish habitat and wildlife[3]. The primary difference would be in the reduction of fish caught and, for salmon, a corresponding increase in the probability of recovery and survival of individual salmon populations in the Puget Sound Chinook Salmon ESU that may result from the reduction in harvest. *Alternative 1* (the RMP) and *Alternative 4* are predicted to have less adverse effect on fish habitat than *Alternative 2 or 3*. *Alternatives 2 through 4* are predicted to have a small beneficial effect on wildlife compared with *Alternative 1*.

With regard to effects on fish species, there would be some beneficial effect from the higher abundances predicted to result from *Alternative 4*, but it is difficult to determine how much difference in environmental benefit there would be for this resource between *Alternative 4* and *Alternative 1* (RMP). Habitat carrying capacity and productivity are limited in many salmon streams in Puget Sound, and escapements that return in excess of the capacity of these systems may create increased competition for mates, spawning and rearing area, food and other limited resources so that substantial increases in escapement may not translate into similar increases in subsequent returns. The same uncertainty exists regarding the potential effects of substantial increases in the number of coho and chum salmon hatchery adults in natural spawning areas, or increased predation by salmon on forage fishes that are predicted to occur under *Alternative 4* when compared with *Alternative 1*. Potential increases in predation or competition for food resources could also negate benefits realized from increased abundance for either salmon or non-salmon species.

[3] Based on CEQ Regulations, NMFS was conservative in its choice of the Environmentally Preferable Alternative by basing it only on the effects of the biological and physical environment. More broadly inclusive criteria would have made Alternative 1 the Environmentally Preferable Alternative, since Alternatives 2-4 clearly would not "protect, preserve or enhance" the cultural and historic resources represented by the exercise of tribal treaty fishing rights.

Table 2. Comparison of predicted environmental effects among alternatives for each environmental component[4].

Environmental Components	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Escapement Goal Management, Management Unit Level	Alternative 3 – Escapement Goal Management, Population Level, Terminal Fisheries	Alternative 4 – No Action/No Authorized Take of Listed Puget Sound Chinook
Fish		No to low beneficial impacts to most populations relative to Alternative 1.	Beneficial impacts to most populations relative to Alternative 1.	Beneficial impacts to most populations relative to Alternative 1.
Threatened and Endangered Species	Meets 5 of 10 RERs. Exceeds 5 RERs by 4 to 10%.	Meets 5 of 10 RERs. Exceeds 5 RERs by 3 to 43%.	Meets 8 of 10 RERs. Exceeds 2 RERs by 2 to 7%.	Meets 9 of 10 RERs. Exceeds 1 RER by 7%.
	Exceeds 21 of 22 critical escapement thresholds by 2 to 1110%; average 383%.	Meets or exceeds 20 of 22 critical escapement thresholds by 15 to 1110%; average 364%.	Meets or exceeds 21 of 22 critical escapement thresholds by 15 to 1110%; average 378%.	Meets or exceeds 21 of 22 critical escapement thresholds by 15 to 1531%; average 547%.
	Meets or exceeds 9 of 19 viable escapement thresholds by 2 to 237%; average 68%.	Meets or exceeds 9 of 19 viable escapement thresholds by 0 to 105%; average 33%.	Meets or exceeds 10 of 19 viable escapement thresholds by 0 to 105%; average 57%.	Meets or exceeds 11 of 19 viable escapement thresholds by 9-261%; average 107%.
	NMFS has published a proposed determination that finds Alternative 1 meets the criteria of Limit 6 of the 4(d) Rule.			
	Exploitation rate management more robust to escapement goal management to uncertainty in survival and management error.	Escapement goal management less robust than exploitation rate management to uncertainty in survival and management error.	Escapement goal management less robust than exploitation rate management to uncertainty in survival and management error.	

[4] See Table 5.1-2 in Subsection 5.1, Volume 2 of the FEIS for specific subsections where the effects analysis for each component is located.

Environmental Components	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Escapement Goal Management, Management Unit Level	Alternative 3 – Escapement Goal Management, Population Level, Terminal Fisheries	Alternative 4 – No Action/No Authorized Take of Listed Puget Sound Chinook
Unlisted Salmonids	At or below all exploitation rate ceilings by 13 to 27%. Meets or exceeds 11of 15 escapement goals across all non-chinook salmon species by 6 to 294%. Risk of density-dependent effects.	Exploitation rates are low to substantially less than Alternative 1 (8 to 37%). Meets or exceeds 11 of 15 escapement goals across all non-chinook salmon species by 15 to 521%. Low to substantial beneficial effect to escapement depending on species, but increased risk of density-dependent declines in productivity	Exploitation rates are low to substantially less than Alternative 1 (8 to 37%). Meets or exceeds 11 of 15 escapement goals across all non-chinook salmon species by 15 to 521%. Low to substantial beneficial effect to escapement depending on species, but increased risk of density-dependent declines in productivity	Exploitation rates are low to substantially less than Alternative 1 (8 to 49%). Meets or exceeds 11 of 15 escapement goals across all non-chinook salmon species by 15 to 586%. Low to substantial beneficial effect to escapement depending on species, but increased risk of density dependent declines in productivity.
Non-Salmonids	Adverse impacts from sport fisheries. Commercial catch unknown.	Substantial beneficial effect compared with Alternative 1 since no catch of groundfish and forage species. However, increased predation on forage species from reduced catch of salmon likely to reduce beneficial effects on forage species.	Substantial beneficial effect compared with Alternative 1 since no catch of groundfish and forage species. However, increased predation on forage species from reduced catch of salmon likely to reduce beneficial effects on forage species.	Substantial beneficial effect since no catch of groundfish and forage species compared with Alternative 1. However, increased predation on forage species from reduced catch of salmon likely to reduce beneficial effects on forage species.
Fish Habitat Affected by Fishing	No adverse impact to fish habitat.	Moderate adverse impact to fish habitat in freshwater areas compared to Alternative 1.	Moderate adverse impact to fish habitat in freshwater areas compared to Alternative 1.	Low beneficial impact to fish habitat compared to Alternative 1.

Environmental Components	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Escapement Goal Management, Management Unit Level	Alternative 3 – Escapement Goal Management, Population Level, Terminal Fisheries	Alternative 4 – No Action/No Authorized Take of Listed Puget Sound Chinook
Marine-Derived Nutrients	Effects cannot be estimated due to variability in spawner density (which varies greatly between species and in different reaches of the rivers), and environmental factors.	Effects cannot be estimated due to variability in spawner density (which varies greatly between species and in different reaches of the rivers), and environmental factors.	Effects cannot be estimated due to variability in spawner density (which varies greatly between species and in different reaches of the rivers), and environmental factors.	Effects cannot be estimated due to variability in spawner density (which varies greatly between species and in different reaches of the rivers), and environmental factors.
Selectivity Effects on Salmonids of Fishing	No to low adverse effects.	Due to uncertainty about the contrasting effects of decreased effects from the elimination of pre-terminal fishing and possible increased use of selective gears in terminal fisheries, it is not possible to predict effects of this alternative.	Due to uncertainty about the contrasting effects of decreased effects from the elimination of pre-terminal fishing and possible increased use of selective gears in terminal fisheries, it is not possible to predict effects of this alternative.	No to low beneficial effects compared to Alternative 1.
Hatchery-Related Effects *Straying* *Overfishing*	Low to moderate adverse impact. See effects under Fish, above.	Moderate to substantial adverse impacts. See effects under Fish, above.	Moderate to substantial adverse impacts. See effects under Fish, above.	Moderate to substantial adverse impacts. See effects under Fish, above.
Tribal Treaty Rights and Trust Responsibilities	No or low adverse effect.	Substantial adverse effect.	Substantial adverse effect.	Substantial adverse effect.

Environmental Components	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Escapement Goal Management, Management Unit Level	Alternative 3 – Escapement Goal Management, Population Level, Terminal Fisheries	Alternative 4 – No Action/No Authorized Take of Listed Puget Sound Chinook
Treaty Indian Ceremonial and Subsistence Uses	No adverse effects.	Substantial adverse effects.	Substantial adverse effects.	Substantial adverse effects.
Economic Activity				
Commercial	Moderate beneficial effects.	Substantial adverse effects.	Substantial adverse effects.	Substantial adverse effects.
Sport	Moderate beneficial effects to all sport fishing sectors.	Substantial adverse effects to all marine sport fishing sectors. Substantial adverse to 2 of 3 freshwater regions. Low beneficial effect to freshwater sport fishing sectors in Hood Canal.	Substantial adverse effects to all marine sport fishing sectors. Substantial adverse to 2 of 3 freshwater regions. Low beneficial effect to freshwater sport fishing sectors in Hood Canal.	Substantial adverse effects to all marine and freshwater sport fishing sectors.
Local and Regional Economy	Moderate beneficial effects to local economies and low beneficial effect to regional economies.	Substantial adverse effects to local economies and low adverse effects to regional economies.	Substantial adverse effects to local economies and low adverse effects to regional economies.	Substantial adverse effects to local economies and low adverse effects to regional economies.
Environmental Justice	Low to no effect.	Disproportionate and substantial adverse effect.	Disproportionate and substantial adverse effect.	Disproportionate and substantial adverse effect.

Environmental Components	Alternative 1 – Proposed Action/Status Quo	Alternative 2 – Escapement Goal Management, Management Unit Level	Alternative 3 – Escapement Goal Management, Population Level, Terminal Fisheries	Alternative 4 – No Action/No Authorized Take of Listed Puget Sound Chinook
Wildlife				
Marine Birds	Low adverse effect.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.
Marine Mammals	Low adverse effect.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.
Benthic Invertebrates	No to low adverse effect.	No to low beneficial effect compared with Alternative 1.	No to low beneficial effect compared with Alternative 1.	No to low beneficial effect compared with Alternative 1.
Threatened and Endangered Species	Low adverse effect.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.	Low beneficial effect compared with Alternative 1.
Ownership and Land Use	No effect.	No effect.	No effect.	No effect.
Water Quality	No effect.	No effect.	No effect.	No effect.

V. NMFS DECISION AND FACTORS CONSIDERED IN THE DECISION

In addition to identifying the environmentally preferred alternative, NEPA regulations require agencies to state in the ROD the decision that was made and how the decision was affected by the preferences among all the alternatives based on relevant factors (including economic and technical considerations and agency statutory missions) (40 CFR Part 1505.2(a)(b)). NMFS' decision is based on which alternative it believes will best fulfill the purpose and need for the Proposed Action. As provided for in NEPA and the CEQ NEPA implementing regulations, it may not be the same as the Environmentally Preferable Alternative. NMFS has the authority to take into account various other considerations in choosing its Preferred Alternative, including such factors as the agency's statutory mission and responsibilities and economic, environmental, technical, and social factors (CEQ, 1981: 40 Most Asked Questions, No. 4a).

A. NMFS Decision

Application of Limit 6 to the proposed RMP would ensure that in conducting fishery activities, the co-managers would not be subject to ESA section 9 take prohibitions because these activities would be conducted in a way that contributes to conserving the listed ESUs, or would be governed by regulations that adequately limit impacts to listed salmon. For NMFS to apply the provisions of Limit 6 for implementing a RMP, the co-managers must jointly prepare a fishing plan that meets the requirements defined under Limit 6 of the 4(d) rule. NMFS must then make a determination pursuant with the government-to-government processes of the Tribal 4(d) Rule that the RMP does not appreciably reduce the likelihood of survival and recovery of Puget Sound chinook (50 CFR 223.203[b][6][i]).

The proposed RMP and other alternatives have been described and evaluated in the EIS. Based upon the review of the alternatives and their environmental consequences described in the EIS as required under NEPA, and satisfaction of requirements under the ESA, NMFS has decided to issue a 4(d) determination applying the protections of Limit 6 under the ESA 4(d) Rule and to adopt *Alternative 1*, the proposed RMP, as the agency's preferred alternative. NMFS arrived at this decision while taking technical, economic, and agency statutory mission considerations into account, as discussed in greater detail in the following subsection and in Section 5, Volume 2, of the FEIS.

NMFS has concluded in its 4(d) Evaluation (Appendix C) and its Section 7(a)(2) Biological Opinions, which are incorporated here by reference, that the Puget Sound Chinook Harvest RMP meets the criteria for making this determination in accordance with Limit 6 of the ESA 4(d) Rule (50 CFR §223.203). In making this decision, NMFS has also considered its trust responsibilities to Native American Tribes and has concluded that its determination is consistent with its trust responsibilities. See FEIS Sections 4.4 - 4.5 and 4.7.

B. Factors Considered in the Decision

NMFS authority relevant to the decision extends to either the approval to extend the protections of Limit 6 to the RMP or denial to do so. In reaching this decision, NMFS is required to "identify and discuss all such factors including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision" (40 CFR 1505.2(b); NAO 216-6 Section 4.01.t (May 20,1999)).

Based on Table 2 above, the following factors weighed most heavily in NMFS' decision: 1) fish, and in particular the ESA-listed Puget Sound chinook salmon; 2) various levels of restriction on tribal treaty rights (from voluntary to mandated), and trust responsibilities and the subsequent effects thereon; 3) treaty Indian ceremonial and subsistence uses; 4) various levels of environmental justice effects on Puget Sound tribes; 5) stable or increasingly adverse economic impacts to fishing communities; 6) secondary effects of fishing

resulting from interactions of hatchery salmon that escape fisheries with wild salmon (i.e., straying); and, 7) fishing-related impacts to fish habitat. For other resources evaluated in the EIS (i.e., wildlife, ownership and land use, water quality), there were no or very small differences among the alternatives, or uncertainty in the outcome precluded assessment of the effect (e.g., marine-derived nutrients). Detailed discussions of these factors are presented in the FEIS, the Biological Opinions, and the Evaluation (Appendix C), all incorporated here by reference. What follows is a brief summary of the factors considered.

NMFS chose to approve the RMP, i.e., implement *Alternative 1*, because NMFS believes this alternative would be most successful at balancing resource conservation, trust obligations to Native American tribes, promotion of sustainable fisheries, and prevention of lost economic potential associated with overfishing, declining species and degraded habitats. NMFS did not choose to implement *Alternative 4*, the Environmentally Preferable Alternative, due to: 1) the substantial adverse impacts to tribal treaty rights, treaty Indian ceremonial and subsistence fishing uses, environmental justice effects, and economic effects on fishing communities predicted for this alternative; 2) the expected reduction in adverse biological impacts from implementation of *Alternative 4* were not predicted to be substantial enough to outweigh the losses in these other areas, particularly for listed Puget Sound chinook salmon; and 3) failure to achieve the purpose and need for the Proposed Action. NMFS also did not select *Alternatives 2 or 3* for the first two reasons described above.

NMFS has three primary mandates with regard to this Proposed Action: 1) implement the ESA; 2) carry out federal trust responsibilities with Native American tribes, including protecting the exercise of federally-recognized treaty tribal fishing rights and; 3) provide for sustainable fishing opportunity. In addition, Presidential Executive Orders (E.O.) require that NMFS minimize conflicts between its implementation of the ESA and exercise of tribal activities (E.O. 13175); e.g., treaty-reserved fishing rights, and fishing (E.O. 12962). The Secretarial Order (Department of Interior Order 3206) requires that any restrictions of tribal fishing under the ESA 1) be reasonable and necessary for the conservation of the species at issue; 2) occur only when the conservation purpose of the restriction cannot be achieved by reasonable regulation of non-Indian activities; 3) be the least-restrictive alternative available to achieve the conservation purpose; 4) not discriminate against Indian activities either as stated or implied; and 5) that voluntary tribal measures are not adequate to achieve the necessary conservation purpose. NMFS staff have concluded that implementation of the RMP (*Alternative 1*) would not appreciably reduce the likelihood of survival or recovery of listed Puget Sound chinook salmon. Therefore, the further reductions in fisheries, and tribal fisheries specifically, that would occur with implementation of *Alternative 2, 3, or 4* are not required to meet ESA requirements, and would represent an unreasonable and unnecessary constraint on the exercise of federally-recognized treaty fishing rights. In addition, the approach represented in *Alternative 1* is more robust overall to management error and key uncertainties in environmental parameters (see Subsection 4.3.8, Fish: Indirect and Cumulative Effects), and therefore should better protect salmonid resources evaluated in the EIS and better promote sustainable fishing opportunities.

Under the most likely scenario to occur over the duration of the RMP (the 2005–2009 fishing seasons), implementation of *Alternative 2, 3, or 4* is predicted to result in the loss of more than 94 percent of the local and regional sales, employment, and personal income generated by commercial salmon fishing associated with the Puget Sound fishery. Reductions in sport fishing-related economic activity would range from 12 to 72 percent (see Subsection 4.6, Economic Activity and Value: Environmental Consequences). These predicted effects would be most severe in communities dependent upon commercial and sport fishing activities. Combined with substantial declines in fishing industries that these communities have already experienced over the past 20 years, these predicted effects would further affect the character and viability of these communities, especially tribal communities (see Subsection 4.5, Treaty Indian Ceremonial and Subsistence Salmon Uses: Environmental Consequences; and Subsection 4.7, Environmental Justice: Environmental Consequences). As

discussed above, the primary basis for the identification of *Alternative 4* as the Environmentally Preferred Alternative was the increased abundance in fish species. *Alternative 4* (as well as *Alternative 2 or 3*) would provide for substantially larger escapements of salmonids, larger abundance of forage fish, and a slightly greater possibility of rebuilding some individual listed Puget Sound chinook populations more quickly. However, given the discussion above, it is unclear what realistic effect this would have on the status of salmonid populations. NMFS has concluded in its Evaluation that *Alternative 1* will meet ESA requirements. Management objectives for the other salmonid species are also predicted to be met. Since *Alternative 1* also provides for the conservation needs of these resources, NMFS does not consider the predicted reduction in adverse biological impacts from the implementation of *Alternative 4* substantial enough to outweigh the significant economic losses that would be prevented under *Alternative 1*.

Finally, NEPA regulations require that the selected alternative be consistent with the purpose and need for the Proposed Action. *Alternative 4* would be inconsistent with several elements of the purpose and need for the Proposed Action, and would not have been considered were it not one of the alternatives identified for analysis in the settlement agreement to Washington Trout v. Lohn. It would not: 1) provide for the meaningful exercise of federally-protected treaty fishing rights; 2) provide for tribal and non-tribal fishing opportunity co-managed under the jurisdiction of U.S. v. Washington; or 3) optimize harvest of abundance of Puget Sound salmon while protecting weaker commingled chinook salmon stocks.

VI. MITIGATION MEASURES AND MONITORING

The CEQ's NEPA implementing regulations require agencies to identify in the ROD whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not (40 CFR Part 1505.2(c)). The regulations further state that a monitoring and enforcement program be adopted and implemented, where applicable, for any mitigation. Mitigation includes avoidance, minimization, and reduction of impacts, and compensation for unavoidable impacts.

A. ***Mitigation Measures.*** *Alternative 1* (the Proposed Action) would involve unavoidable adverse impacts. However, this alternative includes mitigation to the degree that management measures constrain fishing mortality to levels at or below those found to meet ESA standards for the listed salmon species and to meet harvest objectives for non-listed salmon species. For those non-listed salmon species that are not expected to meet harvest objectives under *Alternative 1*, they are also not expected to meet these objectives if the fisheries were closed. *Alternative 1* provides for the use of time and area closures, gear modification, non-retention and selective fishing techniques, among other management tools, to minimize the mortality on populations of concern while providing for harvest opportunity on stronger salmon populations. These mitigation measures represent all practical means to avoid or minimize harm to species resulting from the proposed action.

Mitigation measures for seabirds, marine mammals, cetaceans, and listed wildlife species are described in Subsection 4.8 and are consistent with requirements under the Marine Mammal Protection Act and terms of the ESA consultations (e.g., use of bird webs in fishing nets, restriction of fishing area or time, and encounter reporting). While unavoidable adverse impacts would occur to these species as a result of the proposed action, mitigation measures would adequately avoid or minimize any such harm.

Socioeconomic effects have been mitigated to the extent possible while also meeting the needs of the various resources and other applicable laws. The flexibility of the management plan to adjust annual fishing regimes to meet abundance and resource use conditions in a given year (i.e., where and when fisheries occur; what gear will be used; or how harvest is allocated among gears, areas, or fishermen) should maximize harvest opportunity (and minimize socio-economic impacts) within the confines of resource needs. In addition, the use

of Rebuilding Exploitation Rates (see Subsection 4.3.1, Volume 2 of the FEIS and Subsection 3.2.2 of the RMP) should increase abundance over time (assuming improving habitat conditions), leading to more harvest opportunities and reducing any current socio-economic limitations.

B. ***Monitoring and Enforcement Program.*** Monitoring will be required to determine project compliance with the required federal authorizations and approvals to validate the environmental effects of the proposed action. The Puget Sound treaty tribes and the State of Washington, both individually and cooperatively, monitor and enforce harvest guidelines and management measures set out by this action. The co-managers also coordinate with NMFS, the Pacific Fisheries Management Council, Alaska, and Canada (through the Pacific Salmon Commission) to assess cumulative harvest effects on salmon species and marine mammals. Monitoring and enforcement measures for salmon include: escapement surveys; catch sampling; catch and effort accounting; biological sampling of age, size, and sex; assessment of non-landed mortality; smolt production studies; evaluation of the age and size selective effects of fishing; and enforcement activities. *Alternative 1* requires the co-managers to produce annual post-season fishing reports that will be provided to NMFS. Adaptive management processes would be accomplished through provisions of the proposed action and the 4(d) review process, as new information becomes available. Monitoring of seabirds and marine mammals will occur consistent with the terms of biological opinions with the U.S. Fish and Wildlife Service and with requirements of the Marine Mammal Protection Act.

VII SUMMARY FINDING

Through the EIS and as documented in this ROD, NMFS has considered the objectives of the proposed action and has analyzed a reasonable range of alternatives that adequately address the objectives of the proposed action, and the extent to which the impacts of the action could be mitigated. NMFS has also considered public and agency comments received during the EIS review periods. In balancing the projected effects of the various alternatives presented in the EIS and public interest, NMFS has decided to implement *Alternative 1*, the Proposed Action and NMFS' preferred alternative. Consequently, NMFS concludes that *Alternative 1* provides reasonable, practical means to avoid, minimize, or compensate for environmental harm from the action.

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Date

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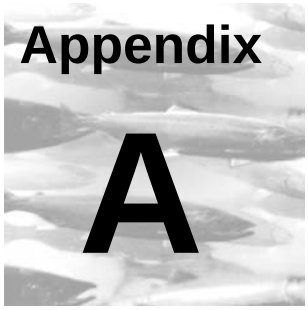

Acronyms

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FEIS	Final Environmental Impact Statement
FR	Federal Register
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NAO	NOAA Administrative Order
NOAA	National Oceanic and Atmospheric Administration
RER	Rebuilding Exploitation Rate
RMP	Resource Management Plan
ROD	Record of Decision
WDFW	Washington Department of Fish and Wildlife

NMFS' Responses to FEIS Comments

The following clarifications were made to text in Appendix H, Volume 2 of the FEIS (Evaluation of and Recommended Determination on a Resource Management Plan (RMP), Pursuant to the Salmon and Steelhead 4(d) Rule) to clarify that the results of the risk analysis pertained to the overall fishing-related mortality rather than that of the Southern U.S. fisheries alone. These clarifications do not alter the conclusions in NMFS' Biological Opinion or NMFS' conclusion that the RMP meets the criteria for Limit 6 of the ESA 4(d) Rule.

Evaluation and Determination, page 55

Through modeling, NMFS determined the increased risk to the lower Skagit River population associated with the overall fishing-related mortality discussed ~~SUS fisheries~~ in the RMP. ~~With the~~ The combined effects of the modeled Canadian fisheries, a 16 percent SUS exploitation rate, and abundance similar to 2003 would ~~a 16 percent SUS exploitation rate~~ represent~~s~~ a 26 percentage point decrease in the probability of a rebuilt population in 25 years. Modeling also suggests that there is no change in the probability that the population will fall below the critical level (see Table 16).

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Through modeling, NMFS analyzed the increased impacts associated with the overall fishing-related mortality discussed ~~SUS fisheries~~ in the RMP, when compared to the NMFS-derived rebuilding exploitation rate as the standard. ~~With the~~ The combined effects of the modeled Canadian fisheries, a 13 percent SUS exploitation rate for the Skykomish River population, and assuming 2003 abundance would ~~a 13 percent SUS exploitation rate for the Skykomish River population~~ represent~~s~~ a 14 percentage point decrease in the probability of a rebuilt population in 25 years. Modeling also suggests that there is a 3 percentage point increase in the probability that the population will fall below the critical level during that same 25-year period (see Table 16).

Evaluation of the Puget Sound Chinook Harvest Resource Management Plan