Willamette/Lower Columbia ESA Executive Committee
Questions regarding Sufficiency Guidelines for Recovery Plans

The Willamette/Lower Columbia ESA Executive Committee (Ex Com) has asked the National Marine Fisheries Service (NOAA Fisheries) to address the following questions related to how NOAA Fisheries will assess the adequacy of ESA recovery plans:

1. What sufficiency guidelines will NOAA Fisheries use to evaluate recovery plans in relation to both threats/limiting factors and biological recovery goals?
2. What analytical tools will NOAA Fisheries use to evaluate the sufficiency of recovery actions and plans?
3. With what degree of specificity do recovery actions need to be identified?
4. What is the relationship between NOAA Fisheries' sufficiency guidelines and the draft RTT population viability criteria?
5. Will NOAA Fisheries evaluate recovery plan actions as they relate to biological criteria or to threats analyses? What role will the TRTs have in evaluation?
6. How will NOAA Fisheries evaluate the sufficiency of individual recovery plan components in the absence of a full ESU recovery plan? Will the criteria for approving an individual recovery plan component be different if other entities within an ESU have *not* developed recovery plans?
7. How will NOAA Fisheries aggregate subbasin/local plans to the ESU scale? At what point in the process will this be done? What analytical framework will be used for assessing the adequacy of the ESU plan?
8. How will NOAA Fisheries communicate sufficiency guidelines to local planners?
9. What if an Ex Com member doesn't endorse NOAA Fisheries' sufficiency guidelines or the viability criteria?
10. How will PFC for site compliance relate to ESU criteria?
11. How and by whom does NOAA Fisheries anticipate the adequacy of existing regulatory and other programs will be evaluated relative to sufficiency of recovery plans and relative to de-listing?
12. Does NOAA Fisheries anticipate reviewing individual subbasin plans? If so, how does that review process intersect with NPPC review, including review by the ISRP and ISAB? What is the timing of that review process and who will conduct it (e.g., TRTs, NWFSC, other science groups, etc.)?
13. ESA recovery plans are supposed to include implementation plans that express the timing and cost of recovery actions, will these implementation plans also obligate entities to implementing specific actions?
14. How will a recovery plan affect section 7 consultations, section 10 permits and 4(d) rule implementation?

The responses below are preliminary and intended to improve understanding of these issues and stimulate discussion. We hope to continue to develop our thinking on these issues through the

collaborative recovery planning process and continued discussion with the Ex Com.

Introduction

Recovery planning for Pacific salmon is guided by the statutory requirements of the Endangered Species Act (ESA) §4(f) and by several additional guidance documents. These additional guidance documents consist of (1) a set of policies published jointly by the U.S. Fish and Wildlife Service (FWS) and NOAA Fisheries in 1994; (2) NOAA's 1992 recovery planning guidelines and revision of those guidelines currently underway in collaboration with FWS (joint service guidelines); (3) the Secretarial Order on American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act; and (4) two district court cases. Recovery planning in the Columbia River Basin is also guided by the Northwest Power Planning Council's (NPPC) *Technical Guide for Subbasin Planners* and the *Local Recovery Plan Guidelines*, developed by NOAA Fisheries and distributed with the May 24, 2002, letter from Bob Lohn to Larry Cassidy.

Statutory Requirements

Section 4(f) of the ESA stipulates that recovery plans include:

(I) a description of such site-specific management actions as may be necessary to achieve the plan's goal for the conservation and survival of the species;

(ii) objective, measurable criteria which, when met, would result in a determination. . . that the species be removed from the list; and,

(iii) estimates of the time required and the cost to carry out those measures needed to achieve the plan's goal.

FWS/NOAA Joint Policies

The joint policies promulgated by the FWS and NOAA Fisheries in 1994 provide direction on several aspects of recovery planning, including (1) solicit independent peer review on draft recovery plans; (2) have biologists evaluate all information used to develop recovery plans; (3) include stakeholders in recovery plan development and implementation; (4) incorporate ecosystem considerations in recovery planning and implementation; and (5) include state agencies in recovery plan development and implementation (see 55 FR 34272-34273, July 1, 1994).

Joint Service National Guidelines Revision

NOAA Fisheries is in the process of revising its 1992 Recovery Planning Guidelines through the development of joint recovery planning guidelines with the FWS. The joint guidelines will incorporate joint policies and other updates. The Northwest Region of NOAA Fisheries is participating closely in these revisions. NOAA Fisheries and FWS (Services) expect the guidelines to be distributed in draft form in mid-2003 for use by the Services. In the meantime, the *Local Recovery Plan Guidelines* and any other regional guidance documents referenced herein are consistent with the current NOAA guidelines and incorporate many of the changes that will be included in the joint recovery planning guidelines.

Secretarial Order

The Secretarial Order on American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, issued on June 5, 1997, clarifies responsibilities of the Departments of Commerce and Interior when implementation of the ESA affects or may affect Indian lands, tribal trust resources, or the exercise of tribal rights. The order establishes that the services shall solicit tribal representation in all aspects of the recovery planning process and shall develop and implement recovery plans in a manner that minimizes social, cultural, and economic impacts on tribal communities consistent with the timely recovery of listed species.

Recent Court Decisions

Recent court decisions have focused attention on the de-listing criteria requirements of ESA section 4(f)ii (see Fund for Animals v. Babbitt [D.D.C. 1995] and Defenders of Wildlife v. Babbitt [D.D.C. 2001]). These court cases establish that de-listing criteria must specifically address each of the five listing factors of ESA section (4)(a)(1).

Technical Guide for Subbasin Planners and Local Recovery Plan Guidelines

Two important guidance documents for recovery planning in the Columbia River Basin are (1) the Northwest Power Planning Council's (NPPC) *Technical Guide for Subbasin Planners*, which was developed with NOAA Fisheries' participation, and (2) the *Local Recovery Plan Guidelines* developed by NOAA Fisheries and transmitted as an attachment to Bob Lohn's May 24, 2002, letter to Larry Cassidy addressing the relationship between subbasin planning and recovery planning. These documents contain detailed and important information regarding expectations for subbasin plan components of ESU-scale recovery plans.

Below we address individually the questions posed by the Ex Com. These answers are preliminary and we expect them to evolve based on continued discussions both internally and with the Ex Com.

1. What sufficiency guidelines will NOAA Fisheries use to evaluate recovery plans in relation to both threats and biological de-listing criteria?

In evaluating whether a species has recovered to the point where it no longer requires protection under the ESA, NOAA Fisheries must evaluate improvements in characteristics such as population numbers, productivity, survival at various life-stages, and geographic distribution to assure that the species is secure and self-sustaining. NOAA Fisheries must also determine that the five listing factors in ESA section 4(a)(1) no longer threaten or endanger the species. Thus, removal of ESA protection requires demonstration that the threats identified at the time of listing—and any new threats identified since listing—have been eliminated, reduced, or otherwise mitigated so the species is no longer "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

Recovery plans must adequately identify the threats to the species and the actions required to remove those threats and achieve recovery goals. Evaluating the sufficiency of recovery plans will in large part entail ensuring that all required components are present, assessing whether key questions have been adequately answered, and assessing whether the actions identified are

likely to remove the threats and achieve the de-listing criteria. To facilitate NOAA Fisheries' evaluation, it is important for recovery plans to demonstrate clear linkages between goals, limiting factors, and strategies; to describe the rationale for selecting particular strategies and actions over others; to explain the sequencing of strategies and actions; and to describe how the plan addresses uncertainty and preserves options for adaptive management.

Recovering salmon will require more than a suite of restoration projects, no matter how carefully they are planned and prioritized. Recovering salmon will also require difficult choices regarding land and water development and resource use. There may be a need for adjustments in existing management plans and regulatory programs for land and water development and resource use. To provide adequate certainty that recovery objectives will be achieved, recovery plans will need to identify needed changes and address those choices.

Guidelines NOAA Fisheries will use to evaluate sufficiency of recovery plans are:

a. Are the required elements present?

For elements that should be included in subbasin-scale recovery plans, see the NPPC's *Technical Guide for Subbasin Planners* and the NOAA Fisheries' *Local Recovery Plan Guidelines* distributed with the May 24, 2002, letter from Bob Lohn to Larry Cassidy. For ESU-scale recovery plans, NOAA Fisheries will rely on the statutory requirements and guidance documents described above.

b. Have threats/factors currently limiting recovery been identified accurately, at the appropriate scale, and with sufficient technical rigor?

Essential to recovery planning is the accurate identification of the threats currently facing populations and ESUs. Only then can actions be targeted to the threats that are limiting recovery of the ESU.

For subbasin level recovery plans, see the NPPC's *Technical Guide for Subbasin Planners* (in particular "Questions to be Answered in Developing a Habitat Recovery Plan," pages 5-6), and the NOAA Fisheries' working memo entitled *Draft Subbasin Assessment Principles*, dated 7/18/01 (attached). These documents provide guidance on the expectations for identification of habitat-related threats within subbasins.

The Puget Sound TRT has also developed a draft technical guidance document for recovery planning that provides additional examples of tools that may be useful in conducting technical analyses for recovery planning at the subbasin scale. The draft document, entitled *Integrated Recovery Planning for Listed Salmon: Technical Guidance for Watershed Groups in Puget Sound*, addresses habitat as well as harvest and hatcheries impacts at the subbasin scale.

While subbasin planners should focus primarily on problems and actions within their subbasins, they also need to understand the relationship between survival rates in their subbasins and those in other life stages outside the subbasin. Recovery plans ultimately will need to evaluate survival through all life stages and determine the most effective suite of actions for survival of the ESU as a whole. As a starting point for subbasin planners, NOAA Fisheries is developing sets of assumptions concerning *present* survival rates for life stages outside of the subbasins for each listed ESU. These assumptions will be presented in a quantitative format and can be used (as a baseline) in the first iteration of subbasin planning. NOAA views these assumptions as a starting point and we will work with the TRTs and subbasin planning technical groups on refinements as desired and appropriate.

ESU-scale recovery plans must incorporate the analysis of threats from all the subbasins and address the out-of-subbasin threats. See question 7, below, for a discussion of how subbasin plans will be aggregated to the ESU scale.

c. Are strategies and actions linked clearly and logically to the identified threats/limiting factors and is there an adequate description of how the actions proposed will alleviate the threats and achieve the recovery goals?

The strategies and actions in a subbasin plan or ESU-scale recovery plan need to be directly related to the threats and opportunities identified through limiting factors analyses, and should be prioritized to address the most significant threats and opportunities first. Plans should also describe the rationale for selecting particular strategies and actions over others. This rationale should address both the technical foundation for the strategies and actions as well as the feasibility or likelihood that those strategies and actions would be implemented. There needs to be a reasonable level of confidence that the collective set of actions will correct the problems and achieve the recovery goals. (Questions 1-3 and 11 of this document all relate to how to establish that confidence.)

d. Is there a clear and accountable framework and implementation plan for establishing priorities for actions and for stepping down from population-scale strategies and broad actions to actions at particular sites or river reaches?

Stepping down from population (or subbasin) strategies to actions implemented at particular sites or river reaches will require decisions related to both technical/scientific and policy/socioeconomic issues. Here we address the scientific/technical process of stepping down from population-scale strategies and broad actions to actions to be implemented at specific locations.

We consider the ESU and its component independent populations the appropriate scale

for identification of limiting factors and priority strategies. As noted in the NOAA Fisheries' *Local Recovery Plan Guidelines*, however, it is usually difficult and not appropriate to make technically credible choices about specific parcels or reaches from the broad perspective of a subbasin. For example, at the population scale, it would be possible to identify and prioritize threats such as poor access to spawning habitat, inadequate rearing habitat, or elevated water temperature. In most cases, however, it would not be possible without further assessment to identify the precise locations for restoring habitat access and enhancing rearing habitat, and for identifying which river miles of riparian vegetation should be restored to decrease water temperatures.

Therefore, although recovery plans and their subbasin components should identify specific actions where possible and appropriate, it is also sufficient to identify general strategies and accompany those with directions for prioritizing and stepping down to more precise (finer-scale) actions.

Plans should explain the sequencing of strategies. Actions should be prioritized spatially based on estimated capacities to achieve population recovery goals. Actions in these prioritized areas (watersheds) should themselves be prioritized to address the most significant threats to recovery while capitalizing on the greatest opportunities to increase population productivity. Again, in many cases, finer-scale assessment and planning will be necessary to provide the level of resolution needed for credible implementation of site-specific actions. Where finer-scaled plans are available, they should be recognized and used or referenced in the subbasin plan. Where finer-scaled plans are not available, the subbasin assessment and plan should indicate which areas should be prioritized for finer-scale assessment and funding through state, federal, Council, and other programs.

Subbasin planners need to bear in mind the importance of an implementation plan. NOAA Fisheries has reviewed existing FWS recovery plans and the draft Joint Service National Guidelines. The ESA requires an estimate of the timing and cost of recovery actions. The guidelines and other examples provide that implementation plans should also identify the entities which are appropriate for implementing the actions. Being identified as an entity in a recovery implementation plan does not obligate that entity to action. However, it does identify that entity as one that could play an important role in recovery if it chooses to implement the action.

Commitments by responsible entities can occur at two levels. The first level is the commitment necessary for a recovery plan. This level of commitment can be reached by the entities being aware of and comfortable with their respective *potential* tasks identified in a recovery implementation plan. At this point, the entities should have the intent of taking the recovery actions which they have adopted. However, they are not at this point *obligate*d. Those express obligations would come with a second phase or level of commitment that would be a negotiated contractual agreement resulting in a permit through section 7, 10 or 4(d). It is appropriate for a recovery plan to describe and rely on those contractual agreements that are *already in place*. However, it will

not be necessary to have those contractual obligations in place for a recovery plan to be sufficient. Those contractual commitments could be the basis of a second level of ESA assurances beyond a recovery plan, if the entities choose.

e. Have performance measures and a monitoring program for both implementation and effectiveness been established, including provisions for adaptive management?

Performance measures and monitoring for implementation and effectiveness are crucial components of recovery plans. NOAA Fisheries will work with federal agencies, states, and tribes to develop coordinated programs for monitoring and reporting on recovery plans at both subbasin and ESU scales.

2. What analytical tools will NOAA Fisheries use to evaluate the sufficiency of recovery actions and plans?

In large part, evaluating the sufficiency of recovery actions will entail evaluating how well the plan answers the key questions identified above and in NOAA Fisheries' *Draft Subbasin Assessment Principles*, dated 7/18/01 (attached). While at this time there is no single, unifying analytical tool that can be used to evaluate an entire recovery plan, evaluating how well an individual question is answered will often involve use of analytical tools.

A variety of analytical tools have been developed that address various aspects of recovery plan evaluation, such as trend and extinction risk, habitat-production relationships, and the level of survival improvement that might be expected from different actions. Among the tools currently available are the Cumulative Risk Initiative, the Ecosystem Diagnosis and Treatment model, the Matrix of Pathways and Indicators, the "65/10" model for impervious surface in a watershed, the Ecosystem Recovery Planning for Listed Salmon document being developed by the Northwest Fisheries Science Center (this document was formerly know as Salmon Habitat and Recovery Planning, or SHaRP), and the NOAA Fisheries' *Draft Subbasin Assessment Principles*, dated 7/18/01, (attached). All of these tools have limitations and are appropriate only for certain actions or circumstances. Thus it is reasonable to expect that a variety of analytical tools will be necessary to make the link from actions planned to benefits anticipated.

Because it will be difficult to make that link, it will also be useful for recovery planning to address alternative scenarios for achieving recovery goals and reducing threats. A relative evaluation of alternatives will be more robust than an absolute prediction about the biological outcomes of a given set of actions. An evaluation of alternatives should consider both the biological outcomes as well as the likelihood that the actions in each alternative scenario would be implemented.

The evaluation of alternative scenarios would help recovery planners and NOAA Fisheries

understand the relative degree of confidence that proposed plans would succeed in recovery.

Because new tools may be developed during the life of recovery planning, and because we must use the best available science to evaluate recovery plans, it is impossible to say with certainty exactly what tools we will use. We are open to the use of any scientifically credible tools to help us evaluate recovery plans. We hope that our partners in recovery planning have input and suggestions regarding tools.

3. With what degree of specificity do recovery actions need to be identified?

One of the statutory requirements for recovery planning under the ESA is that the plans contain estimates of the time and cost required to carry out the actions identified in the plan—so actions must be identified with enough specificity to make these estimates. (We expect to work with policy groups in each recovery domain to reach understanding of how and by whom these estimates will be developed.) In addition, actions must be identified with enough specificity to evaluate the likelihood that they will achieve de-listing goals and remove threats to the species.

Actions also need to be specific enough to be relevant at both the ESU and the population scale. As discussed above in question 1.iv, in some cases, it may be possible to pinpoint specific land parcels or stream reaches for actions from the population and ESU perspective. In other cases, the specific causes of problems may not be easy to detect at the population scale and finer-scale assessments may be needed before actions can be specified. This will be particularly true where the population/ESU scale action is to correct specific ecosystem processes, for example, sedimentation.

4. What is the relationship between NOAA Fisheries' sufficiency guidelines(s) and the draft TRT population viability criteria?

Recovery plans must contain "objective, measurable criteria" for de-listing. For Pacific salmon, this will include biological criteria based on the viability characteristics identified in NOAA Fisheries' *Viable Salmonid Population* paper as well as criteria related to the threats limiting recovery of the species. As discussed above, NOAA Fisheries will determine the adequacy of a recovery plan based on whether it adequately identifies threats and actions to remove those threats and achieve the de-listing criteria.

The draft TRT population viability criteria are preliminary recommendations for biological de-listing criteria in the Willamette/Lower Columbia ESUs. The TRT intends to complete a review draft of these criteria by late March. We expect recovery goals and de-listing criteria to be developed through ongoing technical and policy interaction between NOAA Fisheries and the Ex Com as well as others participating in subbasin and recovery planning. The Ex Com's goal is to distribute recommended recovery goals and biological de-listing criteria to subbasin planning groups for review and feedback beginning in late spring 2003. Ultimately, recovery goals and de-listing criteria will need to address both biological and threats criteria.

5. Will NOAA Fisheries evaluate recovery plan actions as they relate to biological criteria or to the threat analyses? What role will the TRTs have in evaluation?

We will evaluate recovery plan actions as they relate to both biological criteria and threat analyses. See questions 1 and 2, above, regarding sufficiency guidelines and analytical tools. NOAA Fisheries expects to involve the TRTs and other regional scientists in review and evaluation of recovery plans. The exact role of the TRTs in each recovery domain remains to be defined, as does the role of other regional scientists or other independent science groups.

6. How will NOAA Fisheries evaluate the sufficiency of individual recovery plan components in the absence of a full ESU recovery plan? Will the criteria for approving an individual recovery plan component be different if other entities within an ESU have NOT developed recovery plans?

The discussion below addresses how NOAA Fisheries will evaluate the adequacy of subbasin or regional plans as components of recovery plans under ESA section 4(f).

As stated in the May 24, 2002, letter to the NPPC, we expect that not all subbasin components of a recovery plan will be completed at the same time, and that subbasin plans may be completed before the ESU recovery plan is complete. We will treat subbasin plans developed in the present round of planning as interim local recovery plans and will evaluate them independently as they are completed. Through the process of completing ESU-scale recovery plans, we may identify adjustments that are needed to local subbasin recovery plans (e.g., as a result of ESU-scale considerations relevant to the populations or as a result of new data from research and monitoring). We would expect such adjustments to be made in the subsequent round of the NPPC's subbasin planning.

An ESU-wide recovery plan might conclude that there is some flexibility in terms of individual population status. In the absence of an ESU-wide recovery plan, NOAA Fisheries will treat each population as essential to the recovery of the entire ESU and expect each subbasin plan to meet the viability goals for all populations in that subbasin.

The Lower Columbia Fish Recovery Board (LCFRB) expects to prepare a regional plan that covers the Washington portion of the Lower Columbia ESUs. The group anticipates that it may have a complete plan before whole-ESU scenarios have been developed and analyzed in coordination with Oregon groups and has asked what kind of flexibility they may have in putting together partial ESU scenarios that incorporate flexibility in terms of population goals. We will need to explore this question with the Willamette/Lower Columbia TRT, and we also need to explore options for developing whole-ESU scenarios with the Ex Com. NOAA Fisheries endorses LCFRB's intentions to aggregate its subbasin plans at a regional scale. A key consideration in our ability to evaluate the LCFRB component of the recovery plan will be

whether the LCFRB options preclude the later formulation of ESU-wide scenarios.

7. How will NOAA Fisheries aggregate subbasin/local plans to the ESU scale? At what point in the process will this be done? What analytical framework will be used for assessing the adequacy of the ESU plan?

As described in the May 24, 2002, letter from Bob Lohn to Larry Cassidy, NOAA Fisheries expects that ESU-scale recovery plans will be constructed from the present round of subbasin plans (scheduled for submittal to the Council from 2002 to 2004) and from "out of subbasin" components including large-scale harvest, large-scale hatchery, mainstem hydropower, assumptions about ocean survival and natural variability (including climate change), integrated monitoring, evaluation and research, and an economic assessment.

The process of aggregating sub-basin plans into an ESU plan will be iterative and involve evaluation of ESU scenarios based on the results of subbasin assessment and planning information. For example, using the TRT guidelines for ESU viability, we can develop multiple scenarios for recovery of a particular ESU. With information provided in subbasin assessments on the threats and limiting factors for each population, we can then evaluate opportunities and ecological feasibilities for individual populations and for the various ESU scenarios. As a gross simplification, for ESU recovery, either population A or population B is needed. Population A is located within an area of significantly degraded habitat; population B is located in an area of highly functioning habitat. The assessments would provide a technical evaluation of current habitat capacity and conditions (threats status) for these populations, as well as of the technical feasibility of achieving viability goals for the populations. Policy input would evaluate the social/economic feasibility of actions to address those threats and help select which scenario to pursue. Policy choices will have a significant influence because it is crucial that the selected suite of actions have a reasonable likelihood of implementation. The subbasin plan/recovery plan would be built around that subset of populations where science and policy have deduced the greatest confidence that actions will be implemented that lead to ESU recovery.
We expect to work with policy groups in each recovery domain to reach understanding of how and by whom these ESUs scenarios will be developed. For instance, in the Willamette/Lower Columbia domain, NOAA Fisheries will continue discussing this question with the Executive Committee to reach agreement on content, sequencing, and timing of major steps in the process, as well as on roles and responsibilities of the various parties at each step.

8. How will NOAA Fisheries communicate sufficiency guidelines to local planners?

NOAA Fisheries has been working to keep local planners informed as we develop guidance for recovery planning. We anticipate that most additional guidance will be distributed through the policy channels that are guiding the local planning process, such as the Lower Columbia Fish Recovery Board and the Oregon Subbasin Planning Coordinating Group.

9. What if an Ex Com member doesn't endorse NOAA Fisheries' sufficiency guidelines or the viability criteria?

A recovery plan can succeed in recovering listed species only if it is implemented. Therefore, it is crucial that those with the interest, responsibility and authority to implement recovery actions also understand and endorse our recommended approach to recovery planning. Our goal is to reach consensus on scientifically valid sufficiency guidelines and viability criteria that conform to the ESA. We have supported and participated in the collaborative recovery planning process with that goal in mind, and our operating assumption is that we will achieve it. We also believe NOAA Fisheries and Executive Committee members will be well-served by seeking peer review of our sufficiency analyses. If after our collaborative process and peer review we are unable to reach consensus, then NOAA Fisheries will determine and communicate how it will exercise its statutory responsibilities under the ESA. As we have made clear throughout the recovery planning process, we welcome and will consider any Ex Com member's comments on proposed guidelines or criteria.

10. How would PFC for site compliance relate to ESU criteria?

NOAA Fisheries uses the term properly functioning condition (PFC) to define the habitat component of a species' biological requirements for long-term survival and recovery. The underlying premise of PFC is that needed habitat types and attributes depend on maintaining necessary distributions and frequencies of habitat forming processes and disturbances, such as floods, landslides, and wildfires. PFC is the sustained presence of natural habitat forming processes in a watershed (e.g., riparian community succession, bed load transport, precipitation runoff pattern, channel migration) that are necessary for the long-term survival of the species through the full range of environmental variation.

NOAA Fisheries developed the concept and framework of PFC for use in determining the effects of specific actions on habitat at the site-specific, or project-specific, level. Actions in questions are analyzed and required to provide PFC at the same geographic scale at which the action takes place, whether a large tract of forest land or a small wood lot, for example. The PFC concept has been useful at these scales in part because we lack knowledge about population requirements for recovery and about habitat requirements for recovery at the population and ESU scales. Recovery planning can decrease uncertainty about the population requirements and large-scale habitat needs for recovery—or more particularly, about the amount and distribution of life-stage specific habitat types needed for recovery.

Defining PFC in terms of the large-scale habitat needs for recovery differs from defining PFC at the site-specific level, and it is a challenging task. Ultimately, a PFC equivalent needs to be defined and provided at the population and ESU scales. Subbasin assessments that describe the types, distributions, and frequencies of habitat sustaining processes necessary to sustain all life stages within the subbasin will be helpful in defining these large-scale habitat needs. For

example, assessments used in recovery plans should identify the location and causes for disruption of ecosystem function that are reducing survival at specific life history stages. If strategies and actions focused on those specific locations are implemented and restore appropriate patterns of habitat sustaining processes, the habitat component of long-term survival and recovery of listed salmon should be addressed.

11. How and by whom does NOAA Fisheries anticipate the adequacy of existing regulatory and other programs will be evaluated relative to sufficiency of recovery plans and relative to de-listing?

The question posed by the Ex Com correctly distinguishes between evaluating the adequacy of programs (regulatory and other land, water, and fishery management or conservation programs) for a recovery plan and evaluating the adequacy of regulatory and other programs at the time of de-listing. In the first case, recovery planners need to evaluate whether existing and proposed programs have a high likelihood of meeting the recovery goals. The second case assumes that recovery goals have been met and that NOAA Fisheries is evaluating whether de-listing is warranted. In making a decision to de-list, NOAA Fisheries will need to determine that regulatory and other programs in place *at that time* are adequate to maintain viability and avoid listing the species again in the foreseeable future. At the time of a future delisting decision, there might be additional threats, which are not now known or significant, that NOAA Fisheries would have to consider. We address the first scenario (approving a recovery plan) in more detail here but not the second (de-listing) scenario.

There are two consistent public statements pertinent to evaluating existing programs and actions for subbasin plans and local recovery plans. First, the NPPC's *Technical Guide for Subbasin Planners* states that, ..."The planner should look at the relationship between the existing activities and the assessment to identify gaps between actions already taken and the actions that are needed. This "gap analysis" will provide the context to the general needs within the subbasin...." Second, NOAA Fisheries' *Local Recovery Plan Guidelines* (enclosed with a May 24, 2002 letter on subbasin planning from Bob Lohn, NOAA Fisheries to Larry Cassidy, Northwest Power Planning Council) asked subbasin planners to "identify existing local management programs and evaluate their ability to fix the limiting factors and factors for decline and to meet recovery goals." Both statements express the need to evaluate actions and programs underway for their ability to fix problems and meet goals. Below we provide additional guidance for an adequate assessment of the likelihood that management and conservation programs will meet recovery goals.

Evaluation of programs should occur at two scales – the population or subbasin scale and the ESU scale. The evaluation should encompass existing land, water, and fishery conservation and management programs, both regulatory and non-regulatory, and any enhancements in those programs or new programs proposed to fill identified gaps. The evaluation should include (a) assessment of whether the scope and authorities of the programs adequately address the full range of identified threats and (b) more detailed assessment of the likelihood that the programs

will be effective in eliminating, reducing, or mitigating the threats and achieving the recovery goals.

1. Scope of recovery plan strategies and programs. The strategies proposed in a recovery plan, or a subbasin component of a recovery plan, must be consistent with and directly relate to the nature and extent of threats being addressed in the plan. Thus it is important that the plan:

    1. identify credible strategies for addressing the full range of threats and limiting factors identified in assessments and demonstrate clear linkages between goals, limiting factors, and strategies;
    2. identify existing programs and authorities for implementing those strategies;
    3. describe any gaps between existing programs and authorities and those needed to implement the identified strategies, and propose how to fill those gaps with new or enhanced programs;
    4. explain how the plan addresses uncertainty and preserves options for adaptive management.

2. *Likelihood that the programs will be effective*. To establish confidence that programs will be effective, recovery plans should:

    1. explain in detail how the programs are likely to rectify the identified threats and limiting factors;
    2. identify explicit, measurable objectives for the strategies and recovery plan actions and target dates for achieving them;
    3. identify the steps necessary to step down from broad scale strategies to actions at specific sites, areas, or stream reaches;
    4. contain clear provisions for monitoring and reporting progress on implementation of recovery plan actions.

The Ex Com and others in the Columbia Basin have also asked who should be responsible for conducting these evaluations. NOAA Fisheries believes that this decision would be best made through discussions with the individual state-wide subbasin planning groups.

12. Does NOAA Fisheries anticipate reviewing individual subbasin plans? If so, how does that review process intersect with NPPC review, including review by the ISRP and ISAB? What is the timing of that review process and who will conduct it (e.g., TRTs, NWFSC, other science groups, etc.)?

Because NOAA Fisheries hopes to include subbasin plans as components of ESU-scale recovery plans, we anticipate reviewing individual subbasin plans to the extent possible. We

will consider three general questions in this review, 1) Does the plan meet recovery sufficiency guidelines? 2) Is the plan scientifically credible? 3) Is there a likelihood that the plan will be implemented? In conducting these reviews, we hope to rely on independent review panels to the extent possible. Ideally, these reviews will be integrated with the Council's review process for subbasin plans under the Fish and Wildlife Program and with other science reviews such as those developed by statewide recovery efforts like Washington's salmon recovery boards. We hope to avoid establishing a completely independent review process and instead will endeavor to work with and rely in large part on other review processes.

13. ESA recovery plans are supposed to include implementation plans that express the timing and cost of recovery actions, will these implementation plans also obligate entities to implementing specific actions?

The answer to this question is provided in large part in the discussion under question 1.D. However, it is worth repeating here. Subbasin planners need to bear in mind the importance of an implementation plan. NOAA Fisheries has reviewed existing FWS recovery plans and the draft Joint Service National Guidelines. The ESA requires an estimate of the timing and cost of recovery actions. The guidelines and other examples provide that information in an implementation plan should also identify the entities which are appropriate for implementing the actions. Being identified as an entity in a recovery implementation plan does not obligate that entity to action. However, it does identify that entity as one that could play an important role in recovery if it chooses to implement the action.

Commitments by responsible entities can occur at two levels. The first level is the commitment necessary for a recovery plan. This level of commitment can be reached by the entities being aware of and comfortable with their respective *potential* tasks identified in a recovery implementation plan. At this point, the entities should have the intent of taking the recovery actions which they have adopted. However, they are not at this point *obligate*d. Those express obligations could come with a second phase or level of commitment that would be a negotiated contractual agreement resulting in a permit through section 7, 10 or 4(d). It is appropriate for a recovery plan to describe and rely on those contractual agreements that are *already in place*. However, it will not be necessary to have those contractual obligations in place for a recovery plan to be sufficient. Those contractual commitments could be the basis of a second level of ESA assurances beyond a recovery plan, if the entities choose.

14. How will a recovery plan affect section 7 consultations, section 10 permits and 4(d) rule implementation?

That is a question that is not directly relevant to the sufficiency of a recovery plan. However it is an important often asked. NOAA Fisheries is presently working internally on a more detailed response. In general terms, however, an ESU-wide recovery plan will provide guidance and context for all permit actions that occur within the affected area. Therefore, federal agencies,

for example need to be prepared to build the goals, actions and implementation guidelines of recovery plans into all of their programs and actions that are subject to sections 7(a)(1) and 7(a)(2) of the ESA.