NMFS Guidance: Giving "Credit" for Offsite Mitigation

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Introduction

The National Marine Fisheries Service's (NMFS) 2000 biological opinion on the operation of the Federal Columbia River Power System (FCRPS) contains a reasonable and prudent alternative (RPA) that avoids jeopardizing the continued existence of eight evolutionarily significant units (ESU) of salmon and steelhead in the Columbia basin. The RPA includes the following integrated elements:

- measures to minimize take of fish migrating through the FCRPS;
- measures to mitigate outside the FCRPS for take that is unavoidable within;
- development of five-year and annual implementation plans for planning, prioritizing, and implementing measures identified in the RPA or alternative measures;
- checkpoints in 3, 5 and 8 years to determine whether the Action Agencies are taking the necessary measures; and
- checkpoints in 5 and 8 years to determine whether these measures, together with measures taken elsewhere in the basin, are reversing the decline of the listed ESUs.

This paper provides guidance on the second element, generally referred to as "offsite mitigation." The 2000 FCRPS Biological Opinion (the Opinion) identifies specific actions that can be taken immediately to provide offsite mitigation, and calls for future assessments and plans to more fully develop the complete program of offsite mitigation for each ESU.

The Action Agencies are expected to mitigate for the impacts of their actions (maintenance and operation of the FCRPS) to the extent necessary to ensure the survival of the listed ESUs, with an adequate potential for recovery when combined with all actions by all entities across the Columbia basin. It will take many years to achieve full mitigation, and it is not possible to determine at this time the precise structure and distribution of projects that will mitigate for the impacts of the FCRPS.

In the interim, the Action Agencies have asked NMFS for guidance regarding how actions will be "credited" against their obligation to provide offsite mitigation. This paper first addresses the issue of "crediting" and then discusses the broader and more immediate issue of offsite mitigation.

What does it mean for NMFS to "give credit" to offsite mitigation actions?

NMFS defines "credit" as concurrence that the Action Agencies have implemented offsite mitigation actions in compliance with the terms of the Opinion. NMFS will "credit" offsite mitigation actions, i.e., determine whether the Opinion is being complied with, by:

(1) determining through reviews of annual plans that the completed, ongoing, and proposed hydro and offsite mitigation actions described therein are "adequate" (i.e., likely to result in success at the 3-, 5-, and 8-year check-ins); and,

(2) determining at the 3-, 5-, and 8-year check-ins that the hydro and offsite mitigation actions that are completed or underway at those times are satisfactorily meeting check-in performance standards.

NMFS will make these determinations by evaluating suites of actions developed and implemented in the context of comprehensive plans. "Crediting," as described above, is not defined for individual actions. Rather, a suite of actions is evaluated against specific performance standards at the check-in points. The check-in performance standards, against which a suite of actions is evaluated, vary over time, as described in sections 9.2 and 9.5 of the Opinion. To make positive determinations, offsite mitigation actions must be defined and identified, as described in the remainder of this paper.

How is offsite mitigation defined?

Offsite mitigation is defined to mean actions taken outside the hydro system, i.e., taken in the harvest, hatchery, or habitat sectors, and certain research, monitoring and evaluation activities. To be considered offsite mitigation, actions must:

(1) carry an expectation of biological benefit (i.e., survival improvement above that considered in the biological opinion's base period[1] that was used to determine species status) for one or more of the eight ESUs addressed in the RPA (such benefits may be indirect, such as those expected from recovery planning or from monitoring); and,

(2) go beyond – not supplant – the actions that must be taken by Federal, state, Tribal, local, or private entities to meet their respective ESA responsibilities independent of the Opinion. NMFS interprets this as meaning, at a minimum, that the action is not already required through an ESA Section 7 biological opinion or a Section 10 take permit. NMFS also notes that accelerating the implementation of actions required of other agencies may, under some circumstances, constitute a form of "going beyond." This is reflected in RPA actions 154 and 169, which require the Action Agencies to accelerate the development of hatchery and genetic management plans (HGMPs), subbasin plans, and subbasin assessments as offsite mitigation measures.

Additionally, in the specific case of non-Federal habitat, actions that protect currently productive habitat through acquisition or other means, especially if that habitat is at risk of being degraded, are considered offsite mitigation. This exception to the requirement that offsite mitigation improve survival above that considered in the base period status determination is specifically identified by RPA Action 150. This exception recognizes the benefit of protecting the existing baseline by proactively protecting specific highly productive habitats. The rationale is that if productive habitat were degraded, the degraded habitat would require restoration that would qualify as offsite mitigation. However, there would be significant uncertainty regarding the extent to which restoration activities could recapture the quality of the habitat and the time

[1]This base period was determined from 1980 through the most recently available adult return years. The exact time period varied among ESUs. The base period status was updated to represent "current" status by adjusting for recent survival improvements through the hydrosystem and, for some ESUs, reductions in harvest. However, no adjustments were made for recent changes in survival resulting from habitat improvements.

period required to do so. Protecting the existing productive habitat in the first place provides the greatest certainty of benefits to fish within the shortest time period.

Determining whether a project or program constitutes offsite mitigation

The Opinion and the Federal Caucus Basinwide Salmon Recovery Strategy provide guidance on how to determine whether a particular project or program constitutes offsite mitigation:

- Does it meet the definition of offsite mitigation, as described above and in Section 9.3 of the Opinion?

- Does it correspond to an action item prescribed in Section 9.6.2, 9.6.3, 9.6.4, or 9.6.5 of the Opinion?

If the answer to either question is no, the proposed action is not offsite mitigation. If the answer to both questions is yes, the project or program *may* be offsite mitigation. If such actions fall within the categories – and meet the criteria –described below, then they may qualify as offsite mitigation and may contribute to meeting the Action Agencies' obligations under the Opinion.

With this in mind, NMFS offers guidance for several categories of action:

Programmatic actions: This is the most straightforward category for determining whether actions qualify as offsite mitigation under the Opinion. Programmatic actions are clearly prescribed throughout the RPA in Section 9.6 of the Opinion, and the performance standards for programmatic actions will be measured simply in terms of compliance at the 3-, 5- and 8-year check-ins. NMFS will also provide guidance on the appropriateness and adequacy of programmatic actions in the letters of finding it releases in response to annual implementation plans. Examples of programmatic actions include the basinwide monitoring and evaluation program, the basinwide hatchery fish marking program, the recovery planning actions, the hatchery and genetic management planning process, and the subbasin assessment and planning process for habitat.

Habitat Actions: NMFS will continue to emphasize the importance of establishing ecological context for habitat initiatives on a basinwide scale through scientifically sound subbasin and watershed assessments and plans and related recovery plans. Accordingly, the Opinion calls on the Action Agencies to support the continued development and implementation of the Northwest Power Planning Council's (NPPC) subbasin planning process and the NMFS-led recovery planning process. This work is fundamental to the development and success of a long-term recovery program.

The Opinion also calls for specific initiatives to produce biological benefits in the short term (passage and water solutions in priority subbasins[2]), to protect currently productive habitat (Bonneville Power Administration [BPA] habitat protection fund), to test innovative mechanisms

[2] Action 149 defines priority subbasins as those in which actions that address known flow, passage, and screening problems could produce significant benefits.

for habitat protection (water marketing demonstration project and leveraging for agricultural incentive programs), to clear up important uncertainties (mainstem habitat program), and to reestablish ecological function in the estuary. Because problems addressed by these types of projects are prevalent in the Columbia River basin, there is less risk of proceeding prior to completion of subbasin and watershed assessments and plans and related recovery plans.

The specific initiatives described above are expected to contribute to meeting physical performance standards that will be established in the Action Agencies' first five-year plan. Examples of physical performance standards listed in Section 9.2.3 of the Opinion include instream flows, amount and timing of sediment input, riparian conditions that determine water and habitat quality, and access to productive habitat.

Beyond the specifics of the Opinion, NMFS encourages that priority be given to projects that meet the following criteria:

- projects that are based on at least a watershed assessment and provide a rationale for measurable benefits in one or more specific life stages in a spatially explicit manner;

- projects that protect or restore land and water habitat in ways that permanently address the underlying ecological processes, reconnect isolated habitats, or improve connections between habitats; and

- projects that include, as appropriate, monitoring and evaluation consistent with the principles outlined in Section 9.6.5.3 of the Opinion, and Research, Monitoring and Evaluation RPA Actions 183 and 184 (see also the Research, Monitoring and Evaluation section below).

Once physical performance standards are defined in the Action Agencies' implementation plans, it should become easier to evaluate whether a habitat project will qualify as offsite mitigation and help fulfill the biological requirements defined in the habitat section of the Opinion. In the meantime, the criteria listed above constitute NMFS' guidance for making such determinations. Biological performance standards for habitat are not expected to be defined in the near term beyond what is set forth in Section 9.2.2 of the Opinion. Progress toward meeting these standards will be measured in the 5- and 8-year evaluations.

Hatchery Actions: Like habitat actions, one of NMFS' highest priorities for hatchery actions is to complete the planning activities necessary to identify and prioritize opportunities for effective offsite mitigation actions in the hatchery sector. This is the intent underlying the hatchery and genetic management plans (HGMPs) described in Action Item 169 of the RPA. HGMPs that are consistent with subbasin plans and recovery plans are already being encouraged through other consultations, and some are in progress. However, the Action Agencies can facilitate and accelerate the completion of HGMPs, so this will constitute offsite mitigation, depending upon the degree to which it occurs. There are two other programmatic offsite mitigation hatchery actions, including the basinwide marking strategy described in Action Item 174, and the safety net risk assessment process described in Action Item 175, that are similarly urgent. All three are necessary precursors to determining the appropriateness and potential benefits of project-level hatchery actions, including reforms. Once these planning activities are

underway and plans are completed, NMFS will encourage projects to implement the actions identified in approved HGMPs, as described in items 170-173, and 176-79. To the extent their implementation is accelerated or provides additional benefits (e.g., increases the margin of safety) to the species addressed by the RPA, they will qualify as offsite mitigation.

Harvest Actions: The Opinion does not assume specific additional harvest actions (i.e., harvest reductions), but instead identifies the potential for additional survival benefits if the selectivity of fisheries could be increased. A number of specific programmatic activities intended to develop, deploy, and facilitate management of selective fisheries are identified in the Opinion (RPA actions 164-167) as offsite mitigation. Biological benefit ultimately will depend on the extent to which the selective fisheries are actually implemented and how effective they are at reducing harvest mortality.

Research, Monitoring & Evaluation: Ultimately, NMFS' ability to determine appropriate credit in the long term is dependent upon development and implementation of a strong monitoring and evaluation program. This is key to the success of the Opinion and the Basinwide Recovery Strategy. The Basinwide Recovery Strategy identifies several categories of activities that have a high likelihood of benefiting listed salmon runs. However, at this time it is not possible to quantify with certainty the particular mix of actions necessary for the recovery of specific populations within each of the listed ESUs in the Columbia River basin. The Opinion provides a blueprint for developing and implementing ESU-specific strategies for meeting survival and recovery objectives. That basic blueprint calls for the Action Agencies to apply the best information that is currently available or that can be compiled in a relatively short period of time, and to incorporate a strong research, monitoring and evaluation program. The research, monitoring and evaluation program has several important objectives: to confirm that actions are resulting in the changes in survival necessary for appropriate populations comprising each of the listed ESUs; to improve the knowledge base for defining essential recovery actions; and to monitor the status and response of listed populations.

NMFS will therefore strongly encourage research, monitoring, and evaluation at the ESU, subbasin, and project scale as appropriate to meet the 3, 5, and 8- year checkpoint performance measures. At the ESU and subbasin scale, offsite mitigation includes the Opinion's requirement to fund the Technical Recovery Team's (TRT) development of ESU-specific recovery goals and the need to provide technical support to the TRT through subbasin assessments that characterize the relationship between habitat and fish productivity in the subbasin.

Appropriate project and systematic monitoring and evaluation will need to be consistent with the general principles outlined in Section 9.6.5.3 of the Opinion, and Research, Monitoring and Evaluation RPA Actions 182, 183 and 184. Sponsors should provide details of the experimental design they will implement to assess the effects of the proposed actions and a budget for this evaluation. Monitoring designs should assess both physical or habitat responses to the action and an appropriate measure of fish population response to habitat changes. In addition, monitoring designs should identify control sites, characterize the planned replication, and briefly describe the data collection protocols. NMFS scientists, in collaboration with Action Agencies and other regional scientists, will develop guidelines for such monitoring designs to assist in this effort.

Setting priorities among multiple actions

When policy makers are considering multiple projects consistent with the Opinion, NMFS believes such projects should be prioritized relative to their estimated potential benefits. Given the breadth of work contemplated under the Opinion, and the possibility that resources could be limited in any given year, NMFS suggests a rough hierarchy for prioritizing offsite mitigation projects. The first tier of prioritizing should include the programmatic, planning, and monitoring actions that are necessary precursors to implementing and evaluating site-specific actions in the future. The second tier should be biological potential. Actions should be implemented in order of potential biological value, starting with the highest value first. The third and final tier applies in situations where the available resources may not be sufficient to fund all pending projects at a given time. In these instances, NMFS believes the set of projects to be funded should be that which provides, in the aggregate, the highest biological value with the resources available, while taking into account the need for improvements in all the ESUs addressed in the RPA.

Preexisting projects and those implemented for purposes other than the RPA

Many existing projects have been and will continue to be funded by the FCRPS Action Agencies in furtherance of their obligations to comply with mandates other than the ESA. For example, BPA provides funding for the operations and maintenance of the Lower Snake River Compensation Program, which involves several hatcheries operated by the U.S. Fish and Wildlife Service (USFWS). Similarly, the U.S. Bureau of Reclamation funds hatchery activities in the upper Columbia operated by USFWS. BPA also funds many fish and wildlife projects that comprise the NPPC's Fish and Wildlife Program under the "protect, mitigate, and enhance" mandate of the Northwest Power Act. Many existing projects – and similar future projects – have little or no relevance to the eight listed species addressed by the FCRPS RPA, and thus pose no offsite mitigation question. Others, however, clearly provide or will provide benefits to those species. It is this latter category of preexisting, ongoing, and future projects that must be examined more closely to determine whether they might count as offsite mitigation.

In general, projects *should not* be considered offsite mitigation if they have been ongoing for a sufficiently long period of time so that their impacts are implicitly assumed in the Opinion base period (see footnote 1) used for determining species status. This is not to say that such projects are not valid or that they should not continue – indeed many are important and should continue – only that their benefits are not a net survival gain to the species in relation to that already assumed in the Opinion. (In fact, discontinuing funding for some projects or programs may actually degrade base period survival rates and be harmful to listed species.) Future funding for these projects by the FCRPS Action Agencies should continue to be based on their merits relative to other mandates, including the Northwest Power Act as implemented through the NPPC/CBFWA process; they should not now seek to be justified as FCRPS offsite mitigation.

Preexisting projects *should* be considered offsite mitigation if they potentially provide new net benefits relative to the base period. This would be the case, for example, if a project has existed for too little time to affect survival of the species addressed in the RPA. Although this general approach provides guidance, it may sometimes require a case-by-case determination to distinguish between preexisting projects that should be considered offsite mitigation and those

that should not. In some cases, a project may have multiple purposes; identifying which portion constitutes offsite mitigation may also necessitate a case-by-case determination.