

Questions and Answers

October 2020

Introduction

The U.S. Army Corps of Engineers permits the construction of shoreline structures such as docks and marinas in the nearshore environment of Puget Sound. Under the Endangered Species Act, the Corps consults with NMFS when its action may jeopardize the continued existence of an ESA-listed species or adversely modify its critical habitat. Since 2018, the Corps has requested more than 100 consultations with NMFS on its permitting for rebuilding, expanding, and installing new marinas, docks, bulkheads, and other structures in Puget Sound.

Your project is part of a “batch” of 39 projects that required consultation to evaluate potential impacts on threatened and endangered species. In a draft biological opinion shared with the Corps in July 2020, NMFS determined that the proposed action would jeopardize the continued existence and adversely modify the critical habitat of threatened Puget Sound Chinook salmon and endangered Southern Resident killer whales. The draft outlined an approach in which the projects may proceed with protections necessary to mitigate the impacts to the species and their habitat. NMFS intends to finalize this Opinion in November 2020.

The human population of Puget Sound continues to grow, increasing demand for commercial and recreational opportunities that these projects afford. Climate change and sea level rise will also affect nearshore habitat, the people who use it, and the species that depend on it. NMFS is seeking a path forward that works for people, fish, and the environment.

What is a batch consultation and why am I in it?

Given staff shortages and the impact of the lengthy government shutdown in 2019, NMFS attempted to shift to a more efficient programmatic consultation that evaluates many proposed projects at once. The purpose of this kind of consultation is to make sure that threatened and endangered species are sufficiently protected as development continues. Unfortunately, we could not reach agreement with the U.S. Army Corps of Engineers on the programmatic approach this year. Instead, we combined similar projects into one review that we call a “batch consultation.” The outcome of this consultation is a biological opinion that encompasses 39 projects, including yours, and specifies measures necessary to protect the species listed under the Endangered Species Act. Using the batch approach did not substantively change the outcome of any individual project.

Can I consult individually instead of being part of the batch?

The Corps submitted the request for consultation on your project to NMFS, which is considering it as part of the batch of projects. Starting over with an individual request for consultation is possible but unlikely to make any difference in the outcome, since the impacts of the project and opportunities for conservation offsets would be the same.

This Batch Consultation is currently the quickest route to completing ESA consultation. Given the high volumes of consultation requests, individual consultation could take at least two years.

What did the consultation find?

It found that the proposed action would jeopardize the continued existence and adversely modify the critical habitat for threatened Puget Sound Chinook salmon and endangered Southern Resident killer whales. This means that, according to the Endangered Species Act, the “effects of the proposed action would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” Given that conclusion, NMFS developed a Reasonable and Prudent Alternative (RPA) that identifies mitigation for the projects so that they can move forward. The purpose of this consultation is to find ways for the proposed projects to advance while also protecting threatened and endangered species that are vital to the culture and economy of the Northwest.

What is a Reasonable and Prudent Alternative and how does it work?

If we find a proposed action will cause jeopardy or adverse modification, we suggest reasonable and prudent alternatives that can be taken by the federal agency or applicant in implementing the agency action. 16 U.S.C. 1536(b)(3). “Reasonable and prudent alternatives” are alternative actions, identified during formal consultation, that meet certain conditions:

- They can be implemented consistent with the intended purpose of the action;
- They can be implemented consistent with the scope of the federal agency’s legal authority and jurisdiction;
- They are economically and technologically feasible; and
- They avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat (50 CFR 402.02).

In the regulatory definition of RPA, we interpret “feasible” to mean “capable of being done or carried out.” This interpretation is consistent with the language of the Act and the Section 7 implementing regulations. In the preamble to the 1986 final rule on the Section 7 implementing regulations (51 FR 19957), NMFS and the US Fish and Wildlife Service stated “ Reasonable and prudent alternatives must cover the full gamut of design changes that are economically and technologically feasible for an action, independent of who is sponsoring the action.”

What is the Reasonable and Prudent Alternative in this case?

The Reasonable and Prudent Alternative provides for the projects to proceed while avoiding the net loss of nearshore habitat, given its essential value to Puget Sound Chinook salmon and the Southern Resident killer whales that feed on them. This means impacts that reduce the value of the habitat to the species would be offset by compensatory conservation measures or “conservation offsets” such as restoration that increases the value of habitat elsewhere by a comparable amount.

The conservation offsets can take several forms. Individual projects may include actions that increase habitat value, such as removing seawalls. This can offset the project’s other impacts. Proponents may also partner to sponsor or support habitat restoration in other areas. They may also purchase credits from approved conservation banks, which often include large habitat restoration projects. Conservation banks sell credits, which in effect represent a share of the restored habitat that can be applied to offset impacts elsewhere. Purchasing credits from authorized conservation banks can also be an effective way to offset impacts. Finally, the RPA allows project proponents the option to amend their proposed project in a way that would reduce impacts, thereby requiring less mitigation.

How will the proposed projects jeopardize Chinook salmon and killer whales?

The nearshore environment where the projects are located provides essential nursery habitat where juvenile Chinook salmon grow before they migrate to the ocean. Research shows that the larger they grow in this productive habitat, the more likely they are to survive their subsequent years in the ocean and return to rivers as adults to spawn. Most nearshore habitat in Puget Sound is gone. More than 95 percent of key tidal wetlands across South and Central Puget Sound have been eliminated, with many river deltas lost to development.

The odds of survival for juvenile Puget Sound Chinook salmon have dwindled as nearshore habitat has declined. Fewer than 1 percent of juvenile Chinook salmon that leave for the ocean typically return as adults. This is not enough to sustain the species, and some populations in South and Central Puget Sound have declined in roughly four of every five years. Southern Resident killer whales are also affected because Puget Sound Chinook salmon are one of the most important Chinook stocks that the fish-eating killer whales depend on as prey.

The availability of prey is considered one of the three main threats to the whales, which also include vessel traffic and noise and toxic pollution.

Is it fair to burden someone who wants to fix or build a dock with saving killer whales?

Recovery of killer whales and the salmon they depend on will take much more than conservation offsets for a specific nearshore project. The required conservation offsets are specific to the impacts of each project, based on what science says about the importance of that habitat to juvenile Chinook salmon, and in turn to Southern Resident killer whales. The conservation responsibility includes only that impact determined based on the design, location, and type of project involved. Some proposed actions might yield a net benefit to the species. That is the case for several projects assessed under this biological opinion: their combined result is a net benefit to juvenile Puget Sound Chinook salmon and therefore they have no conservation offset requirement. For some projects this may increase the cost of the overall project.

Conservation of endangered species and their habitats requires all sectors to do their part. Halting the species decline is a prerequisite for long-term survival and movement towards recovery. In Puget Sound there has been significant conservation progress made in hatchery production, harvest, and fish passage at large dams. The one remaining but most important piece is focused efforts to facilitate progress in habitat protection and restoration. It is imperative to recognize that the expected benefits of habitat restoration will take years or decades to produce significant improvement in natural population viability.

Doesn't a lot of money already go to habitat restoration?

While the Pacific Coastal Salmon Recovery Fund and other programs do dedicate millions of dollars toward habitat restoration, it is only a fraction of what is necessary to recover Puget Sound Chinook salmon and support the Southern Resident killer whales in both the near and longer term. The Governor's Salmon Recovery Office had reported that in the past 18 years, the Puget Sound region received only about 40 percent of the identified funding needed for habitat restoration. By some estimates the funding going to address the habitat losses we have seen over the decades may be billions of dollars short of what is needed to make progress toward recovery. The provisions of this biological opinion will not come close to making up for that but will help keep us from falling further behind when it comes to essential nearshore habitat especially.

How can a maintenance project that repairs or replaces a structure cause new impacts?

Although some of the 39 projects are described as "maintenance," our review of the projects indicates each of these kinds of projects involves either replacement of existing structures or structural repairs that meaningfully extend the life of all or part of an existing structure. In these circumstances, future impacts of these repaired or replaced structures would be analyzed as effects resulting from the project in an ESA consultation. The Reasonable and Prudent Alternative (RPA) requires that any impacts on nearshore habitat from the proposed projects should be offset, and provides for a range of options from project modifications (soft shore bank armoring, smaller footprints) to incorporation of additional on-site habitat improvements (planting, removal of debris) to obtaining conservation credits.

All of the repair or replacement projects analyzed in this Opinion extend the life of all or part of that structure for many decades. As a result, the additional life of that structure can cause a net loss of critical habitat quality. Those increments of habitat loss aggregate over time and contribute to the declining trend in habitat quality. Against the backdrop of a continued decline in the quality of nearshore habitat in Puget Sound, repair or replacement projects that cause a net loss of nearshore habitat threaten the survival and recovery of Puget Sound Chinook salmon and Southern Resident killer whales. The RPA provides a way for the proposed repair or replacement projects to move forward while achieving a no-net loss approach to nearshore habitat quality in Puget Sound.

What kind of conservation measures can offset impacts on nearshore habitat?

There are many options for restoring habitat in ways that offset impacts, whether on the same property or elsewhere. The options may range from elimination of harmful impacts such as toxic creosote pilings or shoreline armoring to restoring wetland habitat that can support juvenile salmon. Adverse impacts are estimated as conservation debits, while improvements are estimated in the form of credits. If project debits exceed credits, project proponents can secure additional credits that offset their net impact, by, for example:

- Adding on-site habitat improvements to their projects.
- Removing pilings and overwater structure to reduce impacts on nearshore habitat.
- Removing shoreline armoring to improve the value of nearshore habitat.
- Partnering with state agencies, local watershed councils or other local organizations to contribute funds to a project that improves nearshore habitat within the same marine basin or estuary.
 - Partnering with other landowners to remove an in-water and over-water structure within the same marine basin or estuary.
 - Acquiring conservation credits from approved conservation banks and in-lieu fee programs, or a NMFS-approved third-party responsible agreement.

How do you measure the impact to know how much conservation offset is necessary? What science and review supports this approach?

In 2016, NMFS began using the Habitat Equivalency Analysis (HEA) methodology in Endangered Species Act consultations in the Puget Sound nearshore environment in the Structures in Marine Waters Programmatic Consultation (WCR-2016-4361, aka “RGP6/SIMP”). Using HEA along with the Puget Sound Nearshore Habitat Values Model (NHVM) (Ehinger et al. 2015), NMFS is able to express impacts through a “calculator” currently in use here: <https://www.nws.usace.army.mil/Missions/Civil-Works/Regulatory/Permit-Guidebook/RGP/>.

To measure our impact on the nearshore, NMFS uses:

- 1) The Habitat Equivalency Analysis (HEA) methodology. Ecological equivalency that forms the basis of HEA is a concept that uses a common currency to express and assign a value to functional habitat loss and gain. Ecological equivalency is traditionally a service-to-service approach where the ecological functions and services for a species or group of species lost from an impacting activity are fully offset by the services gained from a conservation activity.

HEA, developed by the NOAA Restoration Center, in cooperation with stakeholders, has become a common method for Natural Resource Damage Assessments (NRDA). NMFS chose this methodology for its ESA consultation first, as it adopts and requires a high standard of scientific input and rigor and as well as the fact that this method has withstood multiple legal challenges that can occur during NRDA proceedings.

- 2) The Nearshore Habitat Values Model. The NHVM was developed by a team of NMFS biologists in 2015. The model's values are specific to the designated critical habitat of listed Puget Sound Chinook. These values were derived from scientific literature, and best available information as required by the ESA. This model provides the input parameters for HEA that facilitates the evaluation of impacts and benefits to habitat for listed species. The 2015 version of the NHVM along with documentation is available on NMFS's web site at https://archive.fisheries.noaa.gov/wcr/publications/habitat/critical_habitat/doc_nhv_hea_model_working_draft_2015.pdf. This model was vetted with input from tribes, state and Federal agencies, and consultants as outlined in the acknowledgements.

Since developing the 2015 NHVM, along with continued input from external users, stakeholder, tribes and federal and state scientific peers, NMFS has expanded and updated the model to support a broader suite of nearshore habitat actions. The Batch uses the is expanded and update model.

- 3) A "conservation calculator." The calculator is a user-friendly interface to simplify HEA and NHVM use and provides a model that numerically characterizes impacts as "debits" and benefits as "credits."

The calculator allows input of project specific information (e.g., number of piles, bank armoring being replaced, placement relative to forage fish spawning or submerged aquatic vegetation). Using the HEA method that allows for assessment of impacts in time and space, and the habitat values from the NHVM, the calculator produces numerical outputs in the form of conservation credits and debits. Credits (+) indicate positive environmental results to nearshore habitat quality, quantity, or function. Debits (-) on the other hand indicate a loss of nearshore habitat quality, quantity, or function.

Model outputs for new or expanded projects account for impacts to a "pristine" environment and are calculated at a higher debit rate (~2 times greater) than those

calculated for replace/repair projects, which assume that some function has already been lost. The calculator outputs account for:

- Beneficial aspects of proposed projects, including any positive effects that would result from removing a structure, or piece of a structure, prior to the end of the remaining “useful life period.”
- Minimization incorporated through project design improvements (e.g., credit is given for removal replacing creosote piles with steel piles as steel piles typically have less impact on water quality)
- Adverse effects that would occur for the duration of a new “useful life period” that would result from the proposed expanded, new, or repaired or replaced structure (or components).

Why would similar projects cause different degrees of impacts?

The number of conservation credits needed for each project is determined by the NHVM conservation calculator. The number of credits needed corresponds to the impact of the project. The Calculator also considers the importance to species of the specific habitat affected by a proposed project. Projects occurring in an important nearshore habitat type will typically incur more debits, and thus need more credits. For instance, development of a pocket estuary will incur more debits due to the importance of these areas to juvenile Puget Sound Chinook salmon. Conversely, the calculator assigns “credits” to many repair or replacement projects for the positive impacts of removing that structure, along with credits for conservation improvements, for a certain period of time. And finally, the model assigns a reduced debit/credit factor to habitat impacted by repaired or replaced projects compared with habitat impacted by new construction to account for the fact that impacts to habitat already impaired by existing structures is less detrimental to species than future impacts to unimpaired habitat.

Does this mean future projects in nearshore habitat will face similar conditions?

Nearshore habitat in Puget Sound continues to decline. This negatively affects the survival and recovery of Puget Sound Chinook salmon and Southern Resident killer whales. We cannot predict the outcome of future consultations in Puget Sound. For instance, an action that had only minor short-term adverse effects combined with long-term beneficial effects on the quality of nearshore habitat may not result in a jeopardy or adverse modification of critical habitat finding.

As explained in the preamble to the 2019 revision of the ESA Section 7 regulations, the concept of ‘baseline’ jeopardy does not apply to a section 7 consultation. A jeopardy finding can only be reached if the effects of the proposed action would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. A poor baseline condition in and of itself cannot cause jeopardy.

If nearshore habitat in Puget Sound quality continues to decline, it seems more likely that projects resulting in a net loss of habitat quality would result in a jeopardy or adverse modification of critical habitat. However, we must evaluate each future proposed action using the appropriate consultation framework and based on the best scientific and commercial data available at that time. We therefore cannot predict the outcome of those future consultations.

Will conservation credits be available to the extent necessary?

We expect that at or near completion of this Biological Opinion, conservation credits can be obtained Puget Sound-wide through the Puget Sound Partnership. Some or all (subject to NMFS approval) mitigation credits obtained through the Hood Canal Coordinating Council's In-Lieu-Fee program for projects in Hood Canal may also be able to be used as conservation credits to fulfill the requirements of this RPA. The Blue Heron Slough Conservation Bank also has conservation credits available for proposed projects in their approved service area that includes the estuary of the Snohomish River expanding into the marine waters around Vashon Island and south to approximately the city of Des Moines (applicants will need to contact that bank for exact locations).

How much would the credits cost?

The cost would be determined by the market as credits are purchased for a comparable amount of habitat improvement or restoration. That value could change over time if more restoration options became available such that the prices change in response to costs and supply and demand. You will need to work directly with a conservation credit provider for cost estimates.

How do I know if I have met the RPA?

The RPA enclosed in this letter details the requirements needed to fulfill the RPA. NMFS has committed to continuing to work closely with the Corps and project applicants through this process. For any part of this RPA that requires updated NHVM calculator outputs, NMFS will provide technical assistance and provide a response to a request for technical assistance within 15 day of any such request.

For projects that are subject to the RPA, when applicants have a proposed plan to comply with the requirements of the RPA, they will be submitted to the Corps for verification. After verification, the Corps shall then submit the proposed plans to NMFS for review. Within 30 calendar days of receipt of a proposed plan, NMFS will reply to the Corps and applicant as to whether the proposed plan meets the requirements of the RPA.

Why does beach nourishment not fully offset the impacts from a bulkhead?

A bulkhead has several adverse impacts on critical habitat for listed Puget Sound Chinook. First, it renders the area behind the bulkhead inaccessible to juveniles at high tides. Juvenile salmonids need the shallow water to avoid predators. Second, it prevents sediment supply to the beach. Sediment is important for forage fish at the site and within the entire drift cell. Third, it changes the wave regime and that reduces the ability for wrack and beach logs to accumulate waterward of the armoring. The altered wave regime also contributes to beach lowering and coarsening.

The likely most beneficial action to reduce the impact of shoreline armoring is reducing the amount of hard armoring. When replacing hard armoring with soft and hybrid approaches, no conservation debits are incurred. For example, installing a pocket beach with soft or hybrid armoring will result in NO impacts for that section of shoreline. In fact, a section of shoreline that replaces hard armoring with soft or hybrid can generate conservation credits. You can use the calculator to find out how large your pocket beach would have to be to offset some hard replacement armoring.

Moving the hard armoring landward will also result in reduced impacts.