



## NOAA FISHERIES WEST COAST REGION

This Overview is provided to introduce NOAA's thorough and lengthy decision document: the 2014 FCRPS Supplemental Biological Opinion. The Opinion and its supporting documents should be consulted for a complete understanding of the relevant evidence, issues, and determinations.

# Overview of the 2014 Supplemental Federal Columbia River Power System Biological Opinion

## Background

In 2008, NOAA Fisheries issued a biological opinion for the operation and maintenance of the Federal Columbia River Power System (FCRPS). The 2008 FCRPS Biological Opinion describes a comprehensive set of actions to ensure that the operational effects of the FCRPS on 13 listed salmon and steelhead species and their critical habitat in the Columbia River Basin complies with section 7(a)(2) of the Endangered Species Act.<sup>1</sup> The suite of actions, called a Reasonable and Prudent Alternative (RPA), addresses and improves the factors limiting fish survival across all life stages to reduce or mitigate for the adverse effects of the hydropower system. Actions include, among other things, hydropower actions, such as flow and fish passage; estuary and tributary habitat improvements; and hatchery and predation management measures.

The actions are to be implemented from 2008 through the end of 2018. The RPA also includes a robust adaptive management framework designed to adjust implementation activities based on new scientific information. Monitoring and research assesses the RPA's effects, and adaptive management responds to new information by adjusting implementation to achieve the FCRPS BiOp's survival objectives. NOAA Fisheries and the FCRPS Action Agencies—the Bonneville Power Administration, U.S. Army Corps of Engineers, and Bureau of Reclamation—work closely with sovereign state and tribal governments to implement the FCRPS Biological Opinion through the development of implementation plans, annual progress reports, and multi-year comprehensive evaluations. New scientific information guides the implementation as it becomes available, along with the advice of regional, technical experts. This collaboration and adaptive management advances the protection of listed salmon and steelhead.

Following extensive review by the Administration, in 2009 NOAA Fisheries provided for more aggressive implementation of the RPA, improved monitoring, and contingency measures should fish abundance unexpectedly decline. In 2010, NOAA Fisheries re-examined and re-affirmed the 2008 conclusions in a supplemental biological opinion and modified the RPA. This 2014 Supplemental FCRPS Biological Opinion responds to a 2011 Court Remand Order. It evaluates the first five years of RPA implementation and the actions planned for the remaining five years, considering the best science currently available.

<sup>1</sup> This 2014 Supplemental FCRPS BiOp also confirms analyses or includes new analyses for Southern Resident killer whales, North American green sturgeon, and eulachon.

## Key elements of the 2014 Supplemental FCRPS Biological Opinion

In this 2014 Supplemental FCRPS Biological Opinion, NOAA Fisheries evaluated the Endangered Species Act (ESA) analyses and conclusions of the 2008 and 2010 FCRPS biological opinions, considering:

- The best scientific and commercial data available, relevant to the status of the listed species, environmental baseline, and cumulative effects;
- The effectiveness of RPA implementation to date, evaluating whether the RPA is being implemented as intended and its likelihood of producing the expected results; and
- The RPA actions targeted for implementation from 2014 through 2018, particularly focusing on tributary and estuary habitat, to assess whether the operation of the FCRPS, combined with the RPA, satisfies the substantive requirements of section 7(a)(2) of the ESA to avoid jeopardizing the continued existence of the species and adversely modifying their critical habitat.

### New Information Considered in the 2014 Analysis

NOAA Fisheries examined updated information from currently available scientific reports and data indicating the biological status of the species. For example, NOAA Fisheries completed five-year status reviews for each of the species in 2011 and concluded that the listing status of all species was unchanged from the 2005 status review, on which the 2008/2010 FCRPS biological opinions relied. Additionally, when individual populations of Chinook and steelhead were evaluated relative to recovery criteria, the new five-year status review indicated that most populations had increased abundance, decreased productivity, and there was little or no change in spatial structure or diversity compared to population risk metrics at the time of the previous five-year review.

NOAA Fisheries determined that new information supports the 2008 FCRPS Biological Opinion's description of the range-wide status of the species and their critical habitats. In particular, NOAA Fisheries determined that the decreased productivity was an expected consequence of increased adult fish abundance. It also found that the effects of most factors influencing the environmental baseline remain similar to those considered in 2008. Increased environmental baseline effects are being addressed by enhanced RPA actions. Similarly, the 2008 analysis of cumulative effects remains accurate for this 2014 Supplemental FCRPS Biological Opinion.

## RPA Implementation Progress and Effectiveness

NOAA Fisheries reviewed implementation progress described in the FCRPS Action Agencies' 2013 Comprehensive Evaluation to assess whether the RPA actions are occurring as intended in the 2008 FCRPS BiOp. The agency also evaluated the prospective actions described in the FCRPS Action Agencies' 2014 - 2018 Implementation Plan. NOAA Fisheries determined that the RPA is on track to achieve the effects identified in the 2008 FCRPS Biological Opinion, as necessary to ensure compliance with section 7(a)(2) of the ESA, though much work remains to be done through 2018.

Specifically, NOAA Fisheries found that the effects of the RPA actions will be as beneficial or, for 22 populations, more beneficial than anticipated in the 2008 FCRPS Biological Opinion. The higher survival estimates for these populations provide additional assurance that the required survival benefits will be achieved. Collectively, the best available scientific data continues to support NOAA Fisheries' conclusion that the RPA, as implemented and expected to be implemented through 2018, will avoid the likelihood of jeopardizing the continued existence of 13 listed salmon and steelhead species or destroying or adversely modifying their critical habitats.

Two components of the broader RPA program, identified below, illustrate NOAA Fisheries' findings regarding the sufficiency of the RPA, as well as NOAA Fisheries' conclusions reached in this 2014 Supplemental FCRPS Biological Opinion.

### Tributary & Estuary Habitat Actions

The RPA tributary actions are designed to improve spawning and rearing habitat in the basin's interior. They include specific tributary habitat improvement actions for implementation from 2007 – 2009. For 2010 – 2018, the RPA required the FCRPS Action Agencies to implement a process to achieve specific habitat quality improvements, and associated survival improvements, for 56 populations. To achieve the improvements, the FCRPS Action Agencies' 2010-2013 Implementation Plan identified specific actions for implementation from 2010-2013, but did not specifically identify habitat actions after 2013. The 2014 - 2018 Implementation Plan responds directly to the Court's remand order by identifying specific actions for implementation through 2018 [See the Tributary Actions and Estuary Actions Sections of the 2014 - 2018 Implementation Plan on [www.salmonrecovery.gov](http://www.salmonrecovery.gov)]. In this 2014 Supplemental FCRPS Biological

Opinion, NOAA Fisheries evaluated progress in implementing these projects to date and the likely effects of implementing the remaining habitat actions for the 2014 - 2018 period.

Similar to tributary habitat actions, the RPA includes projects to improve the survival of interior basin salmon and steelhead in the Columbia River estuary. The estuary program was based on the method developed by the Remand Workgroup and designed to address factors limiting survival as juvenile fish transition from the freshwater to marine environments. Based on guidance from the program's Expert Regional Technical Group, the program has evolved to focus on projects that reconnect the historical floodplain and side channels at large sites located near the mainstem Columbia. In this way, the estuary program is being adaptively managed to incorporate the results of scientific study to achieve the RPA objectives.

NOAA Fisheries' analysis concludes that both tributary and estuary habitat projects identified for implementation from 2014 through 2018 are sufficiently defined, can be implemented consistent with the purpose of the FCRPS, are within the FCRPS Action Agencies' legal authority and jurisdiction, and are economically and technically feasible. NOAA Fisheries further concludes that, when added to projects implemented since 2007, the habitat projects are reasonably certain to achieve the RPA's objectives, as identified in the 2008 FCRPS Biological Opinion.

Preliminary results from the monitoring and evaluation program provide evidence that the actions implemented to date in both the tributaries and estuary are correctly targeting degraded conditions and providing benefits to fish. In addition, the actions identified for implementation through 2018 contain sufficient detail and, in the case of the tributary habitat program, include identification of populations to benefit. The actions also identify type of work to be accomplished; limiting factors addressed; extent of area to be treated; volume of water or area of habitat to be protected; and location of work.

Both programs aim to protect and enhance Snake River spring/summer Chinook salmon, Upper Columbia River Chinook salmon, Snake River steelhead, Upper Columbia River steelhead, and Middle Columbia River steelhead and their critical habitat. Further, estuary actions are expected to benefit Snake River fall Chinook and sockeye salmon. Based on NOAA Fisheries' review, the best available scientific data indicates that the habitat actions are likely to have their intended effects and are properly considered and relied on as part of the broader FCRPS RPA program.

### **NOAA Fisheries' Determination**

The 2008 FCRPS Biological Opinion, as supplemented in 2010, considered qualitative and quantitative information at the population, major population group, and species levels to determine whether the RPA was sufficient to avoid jeopardy. After reviewing the RPA's prospective actions aggregated with the environmental baseline and cumulative effects, the 2008 FCRPS Biological Opinion concluded that the listed species are likely to survive with an adequate potential for recovery. Therefore, the RPA, as amended, is not likely to jeopardize the continued existence of the listed species and destroy or adversely modify designated critical habitat.

Based on a thorough review of the best available scientific data and information, with additional project definition, analysis, and amended RPA actions NOAA Fisheries has recommended to the FCRPS Action Agencies, NOAA Fisheries concludes that the 2008 FCRPS Biological Opinion's analysis and conclusions, as supplemented in 2010, remain valid. The 2014 Supplemental FCRPS Biological Opinion concludes that the RPA, as amended, is sufficient and is not likely to jeopardize the continued existence of the listed species or destroy or adversely modify their critical habitat. Additional mitigation actions are therefore not necessary to satisfy the requirements of ESA section 7(a)(2).

### **For More Information**

The 2014 Supplemental FCRPS Biological Opinion and accompanying documents are available at: [http://www.westcoast.fisheries.noaa.gov/fish\\_passage/ferps\\_opinion/federal\\_columbia\\_river\\_power\\_system.html](http://www.westcoast.fisheries.noaa.gov/fish_passage/ferps_opinion/federal_columbia_river_power_system.html)