

Review of Estuary Actions for Salmon and Steelhead Contained in the Columbia River Estuary ESA Recovery Plan Module, NOAA 2008 Biological Opinion and Northwest Power and Conservation Council's Fish and Wildlife Program

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The National Marine Fisheries Service (NMFS), in conjunction with the Bonneville Power Administration and the Army Corps of Engineers, the Northwest Power and Conservation Council, and other regional stakeholders are working together to implement an integrated program for estuary habitat restoration, conservation, research, monitoring and adaptive management. Since 2000, major program actions have occurred including the release of NMFS' 2008 Biological Opinion for the Federal Columbia River Hydropower System, the development of the Columbia River Estuary Recovery Plan Module for Salmon and Steelhead (Estuary Module), and the Northwest Power and Conservation Council's 2009 Lower Columbia River and Estuary Program, all of which focus on survival and recovery of Endangered Species Act (ESA)-listed stocks of salmon and steelhead in the Columbia River Basin.

The NMFS's 2008 Biological Opinion builds on Reasonable and Prudent Alternative actions beginning in 2000 to include seven actions specific to estuary habitat restoration (RPA 36, 37, and 38), survival improvement targets (RPA 37), and monitoring and research (58, 59, 60, and 61). Actions 36, 37, and 38 require the Action Agencies to identify and implement high quality restoration projects that will meet the survival improvement targets set forth in the 2008 Biological Opinion. Actions 58 and 60 focus on estuary and plume monitoring. Action 59 emphasizes the development of an ecological classification system for estuary habitats. Action 61 emphasizes the life cycle of salmon and steelhead through research focused on the Columbia River plume and ocean.

The Estuary Module is a plan to help improve estuary survival for ESA-listed stocks of salmon and steelhead in the Columbia River Basin. Development of the plan began in 2005 by the Lower Columbia River Estuary Partnership for NMFS. It identifies limiting factors and their underlying causes (threats) to provide a basis for 23 management actions designed to improve conditions for salmonids during their residency in the estuary and plume environments. The management actions are evaluated for how well the actions reduce key threats. Each action is further evaluated for cost, schedule, and likely implementer. The Estuary Module also includes a chapter detailing an approach to monitoring, research, and evaluation to help reduce uncertainties and guide future restoration efforts. The Estuary Module is expected to be completed in fall of 2009 and will be incorporated by reference into all Columbia River Basin salmon and steelhead recovery plans.

Northwest Power and Conservation Council's 2009 Lower Columbia River and Estuary Program emphasizes use of the Columbia River Estuary and Lower Columbia subbasin plans and the Estuary Module to guide actions in the estuary and lower Columbia River. The Council's program supports strategies that protect, enhance, and restore critical habitat and spawning and rearing grounds in the estuary and lower Columbia River.