

IMPLEMENTATION PLAN OUTLINE

1.0 Introduction

The December 2000 Biological Opinions (BOs) issued by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) on the effects to listed species from operations of the Federal Columbia River Power System (FCRPS) require the three Action Agencies (Bonneville Power Administration (BPA), U.S. Army Corps of Engineers (COE), Bureau of Reclamation (Reclamation)) to annually develop one- and five-year plans for implementing the measures required by their BOs.

- The Implementation Plan will provide a framework to communicate the development, prioritization, implementation, and monitoring of FCRPS action to meet performance standards of the December 2000 BOs.
- To comply with their ESA obligations, the Action Agencies will prepare an Implementation Plan to:
 1. Assign agency responsibility and accountability for implementing specific actions identified by the BOs;
 2. Determine and document established priorities;
 3. Assess biological and economic feasibility;
 4. Facilitate and measure individual agency progress toward performance standards; and,
 5. Report progress at the 3-, 5-, and 8-year midpoint evaluations.
- If the actions within the Implementation Plans differ from those outlined in the RPAs, the Action Agencies will explain the difference, describe any information used in developing the Implementation Plan, describe why these alternative actions will result in equal or greater survival improvements than those actions included in the RPAs, and seek concurrence from NMFS and the USFWS.
- The Implementation Plan will be prepared annually and will include a one-year and five-year component.
- The Action Agencies will work together and prepare an Implementation Plan that coordinates their respective actions and ensures a unified approach.
- In preparing the Implementation Plan the Action Agencies, to the extent practicable, will work with existing regional processes and forums such as the Regional Forum, Columbia Basin Fish & Wildlife Authority (CBFWA), and the Northwest Power Planning Council (NWPPC). Prior to finalizing, the Action Agencies, in coordination with NMFS and USFWS, will ask for independent scientific review of the basic plan structure.

- The Implementation Plan will include recovery actions for all Columbia Basin ESA-listed populations to be implemented by the Action Agencies through these BOs.¹

Source: December 2000 Biological Opinions

2.0 Goals

The Action Agencies identified broad, basinwide goals to guide the Implementation Plan. However, strategies were designed to achieve the goals as measured through specific performance standards. These strategies are further described in Section 5.

Sections 2 through 5 of the Implementation Plan will summarize the scientific underpinnings of the BOs, and the general goals and approaches to achieve performance standards across all life stages and H's. These sections provide the context in which all actions are determined.

2.1 **Goal 1: Meet the jeopardy standards for Columbia Basin salmon, steelhead, bull trout, sturgeon and other aquatic species that are affected by the FCRPS.**

- Halt declining population trends within 5 to 10 years.
- Establish increasing trends in naturally-sustained fish populations in each subregion accessible to the fish and for each ESA-listed population within a timeframe determined through recovery planning.
- Maintain and improve the current distribution of fish.
- Conserve genetic diversity and allow natural patterns of genetic exchange to persist.

2.2 **Goal 2: Conserve the ecosystems upon which salmon, steelhead and other listed aquatic species depend, including watershed health.**

- Avoid adverse modification of critical habitat for listed fish, including salmon, steelhead, bull trout, and sturgeon.
- Prevent further degradation of tributary, mainstem, and estuary habitat conditions and water quality.
- Protect existing high quality habitats.
- Restore habitats on a priority basis.
- In the long-term, attain state and tribal water quality standards in critical habitats in the Columbia River and Snake River basins.

2.3 **Goal 3: Assure tribal fishing rights and provide non-tribal fishing opportunities.**

- Restore salmon and steelhead populations over time to a level that provides a sustainable harvest sufficient to provide for the meaningful exercise of tribal fishing rights and, where possible, provide non-tribal fishing opportunities.

¹ Recovery actions in the Upper Snake and Willamette Rivers will be addressed in future Implementation Plans.

2.4 Goal 4: Balance other needs.

- Ensure that salmon, steelhead, sturgeon, and bull trout conservation measures are balanced with the needs of other native fish and wildlife species.
- Ensure that salmon, steelhead, sturgeon, and bull trout conservation measures are balanced with human needs, including FCRPS project purposes.
- In implementing recovery measures, seek to preserve resources important to maintaining the traditional culture of basin tribes.

Source: Modified from *Conservation of Columbia Basin Fish: Basinwide Salmon Recovery Strategy* (The All H Paper).

3.0 Science Rationale

3.1 General Approach

- Identify the need for a comprehensive approach to increase survival and productivity across all life stages and all H's as emphasized in various recovery strategies and independent scientific reviews (Bevan, et al., 1994; NMFS 1995; CRITFC 1995; NRC 1995; ISG 1996; etc.), and the recent research paper by the NMFS CRI staff (Kareiva, et al., 2000).
- Identify the need for the Implementation Plan to follow a structured scientific framework that uses biological performance standards to ensure accountability for results. Establish measurable biological performance standards.

3.2 Summary of BO Analytical Results

- Identify the general analytic, life-cycle approach
- Identify general results of the BO analyses.
- Identify the survival improvements expected from the hydro mitigation actions, and the additional offsite survival improvements needed (expected) through implementation of the BOs, the Basinwide Recovery Strategy and future Recovery Plans.

3.3 Summary of Key Assumptions and Uncertainties

- Discuss the key uncertainties and assumptions used in BO's analyses.
- Key uncertainties include:
 1. Extinction Risks and Lambda.
 2. Hatchery Effectiveness.
 3. Sensitivity to historic time period.
 4. Juvenile and Adult in-river passage survival (include passage route).
 5. D – differential delayed mortality for transported fish (include timing to estuary).
 6. Extra (delayed) mortality of in-river and transported fish.

7. Ocean and climate factors.
 8. Effects of habitat and hatchery actions.
 9. Effects of reservoir operations on white sturgeon and bull trout.
- Discuss research needed to help confirm assumptions and reduce uncertainties in the scientific analyses. Discuss adaptive management and describe adaptive management process. Identify research issues and limitations.
 - Develop a process to provide regional input and independent science review of RM&E actions, prioritization, and implementation.

3.4 Science Integration

3.4.1 Scientific Framework

- Identify the scientific framework that connects:
 1. Goals
 2. BO Science Assessment of required survival improvements
 3. Prioritization of Actions
 4. Performance Measures and Standards
 5. Research, Monitoring, and Evaluations
 6. Adaptive management

3.4.2 Prioritization

- Prioritize strategies and actions to meet survival requirements focus on accountability for results. High, medium, and low priorities may be based on timing and location. General priorities include:
 1. Actions that provide measurable or predictable survival benefit;
 2. Emphasis on those areas where we can obtain large survival improvements;
 3. Emphasis on stocks that the science analysis shows need the most survival improvements;
 4. Early actions that provide immediate survival benefits;
 5. Actions that provide broad ecological benefits to multiple life stages, species, stocks, or ESU's;
 6. Perform research, monitoring and evaluation that reduces critical uncertainties, helps determine the effectiveness of actions and provide a basis for adaptive management and accountability.
 7. Identify mechanisms to support implementation based on the general priorities.

3.4.3 Performance Standards and Check-Ins

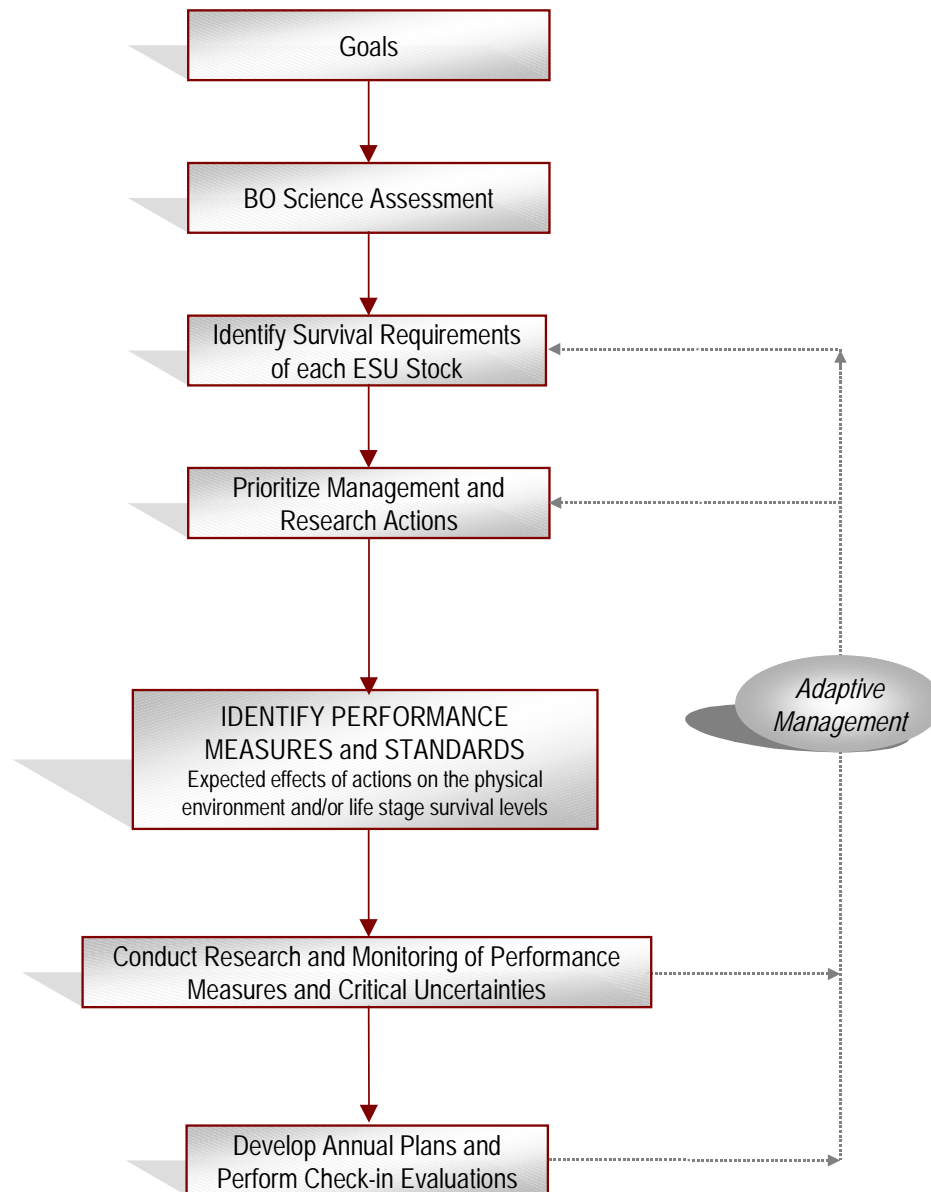
- Identify performance measures that are the critical links between the mitigation actions, the effect of the actions on environmental responses, and the effects of environmental responses on life stage survivals and populations.
- Use 5- and 8-year check-in analyses to assess success or failure of the Plan. Identify the critical sets of actions and scientific information that will be needed for these assessments to conclude success. Discuss limitations in information available for near term check.

3.4.4 RM&E

- Perform RM&E to resolve uncertainties and the effects of actions within the scientific framework and provide the basis for evaluation and adaptive management.
- Develop a forum to provide for regional input and independent science review of RM&E actions, prioritization, and implementation.

Source: December 2000 Biological Opinions

Figure 1. Flow chart showing the connections between the Science Assessments, Actions, Performance Measures, Research, Monitoring, and Adaptive Management.



4.0 Performance Standards, Measures of Success, and Check-Ins

- Use performance standards and associated measures to evaluate the actions implemented each year under the 1- and 5-year Implementation Plan components. (Biological Opinion @ Section 9.2, p. 9-7).
- Pending the development of potential alternative measures as anticipated under the USFWS BO, use reclassification criteria from the Kootenai River White Sturgeon Recovery Plan (pg. 38) as performance measures and measures of success for white sturgeon.
- Use the following performance standards to evaluate progress towards achieving survival and recovery goals for salmon and steelhead in years 3-, 5-, 8-, and 10. Under the terms of the USFWS Biological Opinion, performance standards will also be developed in the future for bull trout and white sturgeon.

4.1 General Approach

4.1.1 Population Level Performance Standards for Regional, All-H Analyses

- Use performance standards based on population growth rate (or lambda), abundance, genetic diversity, life history characteristics, geographic distribution, and other factors necessary to evaluate the likelihood of survival and recovery. Final NMFS and USFWS recovery goals for listed fish will be incorporated into population-level performance standards.

4.1.2 Life Stage Performance Standards

- Use life-stage-specific performance standards as an intermediate tier standard that allocate across the lifecycle of an ESU the performance expectations necessary to achieve the population level standards (BO @ Section 9.2, p. 9-7).
- Incorporate BO hydro standards for juvenile and adult survival.
- R, M, & E will be aimed at resolving uncertainties and determining, over time, the effects of management actions on current and potential life-stage specific survival rates. This information will be used to further develop quantitative performance standards.

4.1.3 Physical and Management Performance Standards

- Develop physical performance standards to supplement or serve as surrogates for biological performance standards. (BO @ Section 9.2.3, pp. 9-17 and 9-18).
- Relate biological performance standards to physical performance standards as data analysis continues. (NMFS BO @ 9.5.3.3, p. 9-46).

4.1.4 Programmatic Performance Standards:

- Use programmatic performance standards to assess compliance with proposed hydro, habitat and hatchery improvements, and the research, monitoring and evaluation necessary for continuing assessment. These “programmatic performance standards include the actions and the schedule defined in the biological opinion and the annual planning process” (BO @ Section 9.2.1, p. 9-7). However, “modification of the list of actions in Appendix F is expected through the 1- and 5-year planning...” (BO @ Section 9.5.2.2, p. 9-41). Within 45 days of receipt of each 1-year plan, NMFS and USFWS will issue a findings letter to the Action Agencies regarding the adequacy of the plan. (NMFS BO, page 9-34)

4.2 Specific Performance Standards Guiding this Plan

4.2.1 Hydro (insert aggressive hydro standards from RPA)

4.2.2 Habitat (insert physical standards, biological guideposts for the future)

- Offsite mitigation for the FCRPS.
- Other federal agency actions that contribute to achieving the performance standards.

4.2.3 Hatcheries (insert management standards from the APR, biological effect for the future)

- Offsite mitigation for the FCRPS.
- Other federal actions that contribute to achieving the performance standards.

4.2.4 Harvest

- Offsite mitigation for the FCRPS.
- Other federal actions that contribute to achieving the performance standards.

4.2.5 Population Standards

4.3 Summary of 3-, 5-, and 8-Year Check-Ins

- The Implementation Plan (five-year plan and its detailed annual component) is driven by needs at the 3-, 5-, 8-, and 10-year check-ins, and performance standards.
- Progress reports document success in implementing actions identified in the Implementation Plan and guide future Implementation Plans.
- Figure 9.5-1 and 9.5-2 of the BO.
- The purpose of the 3-, 5-, and 8-year check-in is to provide a periodic, formal review of the adequacy and effectiveness of the general course set by the

Implementation Plan, and the success of implementation of actions included in annual plans.

4.3.1 3-Year Check-In (2003)

- Emphasis at 3-year check-in is on:
 1. Early actions (that represent immediate biological benefit).
 2. Specific hypothesis testing of key uncertainties.
 3. Completion of Hatchery and Genetic Management Plans (HGMP) and subbasin assessments.
 4. Pilot (or demonstration) projects.
 5. Selected physical performance standards (e.g., x miles of riparian habitat protected, x migration barriers removed, x culverts replaced, etc.).

4.3.2 5-Year (2005) and 8-Year Check-In (2008)

- NMFS will conduct updated analyses of population status and, as feasible, the effectiveness of actions at the population level.
- Year-8 analysis will be more comprehensive and detailed than in year-5.
- Physical performance standards will continue to be important where new research has not yet demonstrated population response to specific actions (e.g., from habitat or hatchery actions).
- Biological performance standards will become more important when causal mechanisms and quantitative response are better understood. Therefore, progress will include further assessments of the effect of actions on survival and productivity.
- Annual RM&E will be prioritized to maximize availability of new information on critical uncertainties and the effect of actions on survival, particularly for the 5- and 8-year check-in.

5.0 General Strategies

- Strategies for each H describe approach to meeting performance standards and will include integration across the H's
- Criteria to be considered for prioritizing specific actions could include:
 1. Immediate and predictable survival benefit.
 2. Magnitude of benefit.
 3. Number of life stages, species, stocks, or ESU's benefited.
 4. Increase connectivity of habitat and promote natural ecological processes.
 5. Reduction of critical uncertainties.

6. Measurable biological benefits.
7. Dollars to implement.
8. Certainty of implementation.
9. Tribal fisheries benefit.
10. Duration of benefit.
11. Relationship (e.g., timing) of the action to other actions that must occur.
12. Biological benefit to other species.
13. Contribution to meeting the long-term water quality goals of the BO's (dissolved gas and water temperature).

5.1 Hydro

- Make operational and structural fish passage improvements at FCRPS projects that will increase the survival of listed fish. Hydro measures that will be implemented by 2010 are expected to reduce juvenile and adult salmonid mortality from passage through the hydrosystem.
- Improve juvenile passage survival at dams.
- Improve juvenile survival in reservoirs.
- Improve adult survival.
- Improve water quality.
- Resolve key scientific uncertainties.
- Enhance hydrosystem and project operations and maintenance for improved fish passage.
- In most years, increase available storage for downstream fish flows.

5.2 Habitat

- The habitat strategy will focus on protecting and rehabilitating important non-federal habitat using federal funds. These actions will be focused in important habitat areas or where time sensitive opportunities exist.
- Priorities will include:
 1. Improve riparian habitat.
 2. Secure additional riparian and estuary habitat.
 3. Improve water quality, including reduction of sediment loads.
 4. Restore tributary flows.
 5. Screen water diversions
 6. Address passage obstructions
 7. Preserve productive habitat.

8. Restore degraded habitats on a priority basis to connect to other functioning habitat.

5.3 Harvest

- Pursue harvest actions that result in direct measurable benefits to ESA-listed fish.
- manage fisheries in a manner that prevents over harvest, does not thwart recovery efforts and contributes to meeting federal obligations to provide for meaningful treaty harvest; and
- provide for sustainable fisheries for the meaningful exercise of tribal fishing rights and non-tribal fishing opportunities consistent with the recovery effort.

5.4 Hatcheries

- reduce potentially harmful hatchery practices;
- use a safety net program on an interim basis to avoid extinction while other recovery actions take place for sturgeon and anadromous fish; and
- use hatcheries in a variety of ways and places to aid recovery.

5.5 Integration of Strategies and Actions Across H's

- Because of the multiple forums through which actions could surface, be modified, or be prioritized, in addition to measures included in the RPA, the Action Agencies will need to integrate the priorities and strategies developed for the hydrosystem, habitat, hatcheries, and harvest. The intent is to ensure that all actions are targeted at providing biological benefits for the listed ESUs and that all actions are complimentary, and consistent with achieving the survival and recovery goals of the BO. This integration will necessarily occur through many of the same regional forums and processes used to develop the actions.

6.0 Federal Columbia River Power System

The Implementation Plans will address each action listed in the RPAs.

6.1 Performance Standards

The NMFS BO identifies performance standards for anadromous fish. Performance standards will be developed for bull trout and white sturgeon.

6.2 System Configuration

- Scope includes eight-mainstem passage projects, Libby dissolved gas, Dworshak dissolved gas, Albeni Falls bull trout passage, etc.; multiyear work plans with one year "pull out" details for the measures (see listing of measures in _____ table).

6.2.1 Mainstem passage and gas abatement measures

- Measure 1 – RPA action citation, purpose/objectives (including biological rationale/benefit), description, tasks, responsible agency,

schedule and milestones, cost estimate, funding source, relevant linkages to other actions/decisions, project operation requirements, monitoring/evaluation plan, reference to COE PMP/study plan, and will include AFEP research, specific and system.

- Item 2 –other actions identified in the BOs.

6.2.2 Libby increased release capacity

- Measure 1 – RPA action citation, purpose/objectives (including biological rationale/benefit), description, tasks, responsible agency, schedule and milestones, cost estimate, funding source, relevant linkages to other actions/decisions, project operation requirements, monitoring/evaluation plan, reference to COE PMP/study plan, and will include AFEP research, specific and system.

6.2.3 Dworshak dissolved gas

6.2.4 Albeni Falls bull trout passage

6.2.5 Chief Joseph spillway deflectors

6.2.6 Others

6.3 Hydro-Electric Transmission Facilities

6.3.1 Projects

6.4 Fish Facility Operation and Maintenance

- Scope includes the eight-mainstem passage projects and fish facilities O&M plans.

6.4.1 Fish passage plan (FPP)

- See FPP outline
- Add five year components

6.4.2 Facilities maintenance

- Introduction
 1. Purpose
 2. Goals
 3. Funding
 4. MOAs.
- Facility Descriptions
 1. Adult and juvenile facilities
 2. Major facility components requiring maintenance, overhauls, and special operations.
 3. Dates of facility construction and major modifications.

4. Project location maps showing passage systems and components.
- Project Operations
 1. Description by facility
 2. Responsibilities
 3. Schedules
- Fish Facility Maintenance
 1. Maintenance and major rehabs or overhauls
 2. Condition of all existing facility components
 3. Facility Maintenance - by juvenile and adult facilities; include annual and long-term maintenance, and spare parts requirements.

6.5 Water Management Plan

6.5.1 Annual Plan

- Water Supply Forecasts
- Fall Operations
 1. Operation for chum salmon below Bonneville dam
 2. Albeni Falls
- Winter Operations
 1. Reservoir refill
 2. Reservoir and reservoir related operations
 3. Chum operations below Bonneville Dam during winter (cover redds during incubation)
- Spring Operations
 1. Spring flow objectives at Lower Granite and McNary
 2. Spring flow objectives for Mid-Columbia River
 3. Lower Snake reservoirs at Minimum Operating Pool (MOP)
 4. Other Reservoirs
 5. Spring spill for fish passage
 6. Chum operations below Bonneville Dam during spring (keep dissolved gas compensation depth over redds and don't strand juveniles).
 7. Libby operations for white sturgeon and bull trout
- Summer Operations
 1. Summer flow objective at Lower Granite and McNary

2. Summer reservoir interim draft limits
 3. Upper Snake River reservoir operation
 4. Summer reservoir operations
 5. Summer spill for fish passage
- Outlook for meeting flow objectives in year ____
 - Water Temperature
 - Total Dissolved Gas (TDG) Management
 - Juvenile Fish Transportation
 - Operations for research and other activities
 - Operations for emergencies and unforeseen situations
 1. Power system reliability
 2. Low water supply
 3. Economic conditions
 4. Fish conditions
 - Appendices – TDG management plan, emergency protocols, etc.

6.5.2 Additional Water Management Actions

- Includes a general description of the multi-year action items – major tasks, milestones etc.; reference to detailed PMPs or study plans to be developed.
 1. VARIable Q (flows) (VARQ) flood control operation
 2. Reclamation water for unauthorized irrigation
 3. Banks lake 10' draft
 4. Dworshak draft to 1500 adult evaluation
 5. System flood control review
 6. Libby fall draft
 7. Upper Snake
 8. Reclamation water conservation improvements
 9. Emergency preparedness

6.6 Water Quality Plan (reference to measures in 6.2, 6.4, 6.5)

7.0 Tributary Habitat Action Plans

7.1 Development of Performance Standards

General Rationale: A comprehensive program will protect, and restore key habitats and restore fish passage, using the Northwest Power Planning Council's

subbasin planning process; and implement a monitoring, analysis, and research program to evaluate progress toward rebuilding the productivity of the system over the long-term. These actions will be closely coupled to actions affecting hatchery reform at the subbasin level.

7.2 Five-year Action Plan

7.2.1 Identification of Priority Areas and Criteria

7.2.2 Land acquisitions and conservation easements

- authorities
- partnerships
- links to sub-basin planning
- early actions and demonstration projects
- Research, monitoring and evaluation

7.2.3 Water acquisitions and instream flows

- authorities
- partnerships
- links to sub-basin planning
- early actions and demonstration projects
- Research, monitoring and evaluation

7.2.4 Habitat restoration and supplemental agricultural programs for riparian restoration

- authorities
- partnerships
- links to sub-basin planning
- early actions and demonstration projects
- Research, monitoring and evaluation

7.2.5 Screening and passage problems

- authorities
- partnerships
- links to sub-basin planning
- early actions and demonstration projects
- Research, monitoring and evaluation

7.2.6 Coordination with other programs

- Federal Habitat Team

- Council Program
- ICBEMP, NW Forest Plan
- TMDL's
- NRCS/FSA Programs
- Tribal Plans
- Governor's Plans and Recommendations

7.3 One-year Action Plan

7.3.1 Reclamation Programs - Lemhi, Methow, and John Day sub-basins

- Establish relationships with tribes, watershed councils, and groups
- Begin programmatic NEPA
- Develop streamlined permitting and consultation processes
- Continue sub-basin planning coordination with NPPC
- Initiate processes with states for water acquisition and securing instream flows
- Begin providing technical assistance to facility owners
- Seek authority for construction (implementation)
- Begin formulation of subbasin-specific monitoring plans

7.3.2 BPA Programs.

- High Priority projects (11/00 solicitation)
- Fish and Wildlife Program projects achieving RPA objectives.
- Subbasin Planning
- CREP agriculture incentive program partnerships
- Water experiment
- Targeted habitat protection
- Complement Bureau of Reclamation program in priority subbasins by increasing current measures to address passage, screening, and flow problems where they are not the responsibility of others.

7.3.3 COE Demonstration Projects

8.0 Estuary Habitat Action Plans and Timetables

8.1 Development of Performance Standards

8.2 Five-Year Action Plan

8.2.1 General Rationale

A comprehensive estuary restoration program will inventory, protect, and restore key habitats and implement a monitoring, analysis, and research program to evaluate progress toward rebuilding the productivity of the system over the long-term. These actions will be closely coupled to actions affecting flow and hatchery reform.

8.2.2 Habitat Inventory and Indices.

- Identify salmon habitat components from LCREP inventory.
- Develop and evaluate biological indices using, among other sources, the forthcoming report by NMFS, OGI, UW, and ODFW, *Salmon at River's End, The Role of the Estuary in the Decline and Recovery of Columbia River Salmon*.
- Research: establish baseline data and other information needed to identify and prioritize habitat actions.

8.2.3 Demonstration and Restoration Projects

- Develop estuary restoration plan, in coordination with LCREP and others.
- Support Avian Predation Management Program.

8.2.4 Coordination with other programs

- Governors, LCREP, NMFS, Conservation groups, state and local representatives, Tribal.

8.3 One-Year Action Plan

8.3.1 Early Restorative Actions

8.3.2 Incorporate recommendations from other processes

- Forthcoming report *Salmon at River's End, The Role of the Estuary in the Decline and Recovery of Columbia River Salmon*.

8.3.3 Implement Avian Predation Plan

9.0 Mainstem Habitat

9.1 Development of Performance Standards

9.2 Five-Year Action Plan

9.2.1 Habitat inventory; identify sites and requirements for improvement

9.2.2 Demonstration projects

9.2.3 Support implementation of Vernita Bar Agreement

9.2.4 Support chum spawning, incubation, and emergence protection below Bonneville Dam

9.2.5 Monitoring and Evaluation; Reporting

9.2.6 Coordination with other programs and processes.

9.2.7 Support ongoing sturgeon early life stage substrate studies.

9.3 One Year Action Plan

9.3.1 General Rationale

9.3.2 Early Actions

- critical research
- inventory
- on-the-ground improvements

9.3.3 Monitoring and Evaluation, Reporting

10.0 Hatchery Reform and Conservation Hatchery Action Plans and Timetables

10.1 Development of Performance Standards

10.2 Five-Year Action Plan

10.2.1 Hatchery Reforms

- Fund development of HGMPs for Federal hatcheries in the Columbia Basin
- Implement hatchery reforms identified in HGMPs for FCRPS-funded hatcheries
- Monitor and evaluate activities identified in HGMPs for FCRPS-funded hatcheries

10.2.2 Comprehensive Marking Plan

- Develop comprehensive marking strategy for hatchery fish.
- Fund marking of all currently unmarked spring chinook salmon at FCRPS facilities.
- Fund marking program for remaining production at FCRPS facilities.

- Fund additional sampling efforts and experiments (on a prorated basis with other regional parties).

10.2.3 Artificial Propagation Safety-Net Program

- Fund the four-step planning process for high-priority populations.
- Implement highest priority safety-net projects
- Implement remaining safety-net projects
- Fund O&M of sturgeon and anadromous fish safety-net programs
- Develop funding process for additional safety-net projects

10.2.4 Coordination with other programs and processes (Tribes, States, Council).

10.3 One-Year Action Plan

10.3.1 Hatchery Reforms

- Fund HGMPs for those facilities affecting the most at-risk ESUs

10.3.2 Comprehensive Marking Plan

- Develop comprehensive marking strategy for salmon and steelhead hatchery fish
- Mark all currently unmarked spring chinook salmon.

10.3.3 Artificial Propagation Safety-Net Program

- Fund the four-step planning process for high-priority populations
- Fund HGMPs for Grande Ronde and Tucannon safety-net programs.

11.0 Harvest Actions and Timetable

11.1 Development of Performance Standards

11.2 Five-Year Action Plan

11.2.1 Implement a Selective Fishery Development Program

11.2.2 Develop, Test, and Deploy Selective Fishing Methods and Gear. Address Effects on Fishery Management, and Enable Transition to Selective Fishery Regimes

- Revise management systems as necessary (management and stock assessment models)
- Revise sampling schemes and fishery/stock data systems as required by mass marking/selective fishery management regime
- Develop and /or refine models and analytical procedures in coordination with relevant fishery managers.

11.2.3 Identify and Implement as Appropriate Opportunities for Fishery Effort Reduction Projects (C/R 11.13)

- Conservation Easement Projects
- Lease Back/Buy Back Projects
- Value Added Projects

11.2.4 Identify and Develop Terminal Fishery Projects (C/R 11.12)

11.2.5 Proposed RM&E

- Develop improved methods for estimating incidental mortalities resulting from fishing, with particular emphasis on selective fisheries.
- Coordinate required RM&E activities with other fishery management programs, processes and entities, such as the Tribes, States, and *U.S. v. Oregon* process

11.3 One-Year Action Plan

11.3.1 Introduction

11.3.2 Early Actions

- Identify Potential Alternative/Terminal Fishing Locations
- Begin Gear Efficacy Testing
- Develop a Research Plan to Address Incidental Mortality in Fisheries
- Evaluate BPA-funded Gillnet Exchange Program
- Undertake Efforts Designed to Improve Existing Fishery Management and Stock Assessment Models
- Begin Development of a Comprehensive Fishery and Stock Assessment (Sampling) Program in Anticipation of Mass Marking and Selective Fisheries

12.0 Research, Monitoring, and Evaluation Plan (RM&E)

12.1 Introduction

- RM&E for NMFS and FWS BO FCRPS actions
- RM&E for other federal actions.
- Discuss the need for a comprehensive RM&E plan as identified in the BO (Section 9.6.5) that encompasses the entire life cycle and different management areas for all ESUs.
- Identify a mechanism for coordination of actions, monitoring, and research within action areas and across life stages that may conflict or compliment each other.

- Discuss the connection between performance measures, standards and R,M&E.
- Discuss the importance of an RM&E focused data management system.

12.2 Structure

- Identify and discuss the primary areas of RM&E that need to be addressed in the plan:
 1. Population status.
 2. Environmental status.
 3. Critical life cycle uncertainties (i.e., extra mortality, hatchery effectiveness, etc.)
 4. Explicit links between management actions, environmental conditions and fish population response.
 5. Compliance monitoring for implementation and maintenance of actions
 6. Data management, data integrity, and tracking
- Identify a general coordination, implementation, and oversight structure for implementation of the RM&E plan and actions.
- Discuss the process and rationale for prioritization of RM&E actions and implementation.
- Discuss the structure of an independent scientific review process for the RM&E plan and projects.

12.3 Implementation

- Identify existing and new workgroups and coordination processes for the development and implementation of specific RM&E work plan elements, Request for Proposals, and contracted projects.
- Identify on-going hydro, habitat, hatchery, and harvest RM&E programs.
- Identify new RM&E actions that address a critical uncertainty for each ESU and each H.
- Discuss process for comprehensive coordination of multiple RM&E work plans across other action plans and regional processes.
- Discuss the implementation steps for a comprehensive RM&E data management system.
- Discuss implementation of an independent scientific review process for the RM&E plan and projects.
- Develop joint Action Agency 1- and 5-year RM&E action plans including schedules and milestones.

13.0 Cost and Funding Strategy

Each measure included in the Implementation Plan will be evaluated for its feasibility and timing. Each Action Agency will keep accounting systems that identify total expenditures for measures they are accountable for implementing. The Action Agencies will work to secure adequate funding for the actions and programs included in the Implementation Plan. The Action Agencies will also develop procedures to implement scientifically sound, short-term, or opportunistic projects not amenable to the normal planning process. (NMFS BO, page 9-33).

14.0 Regional Coordination

14.1 Goals

Merge the actions in the Implementation Plan with other regional efforts to meet ESA recovery goals for fish and other aquatic species.

14.2 Hydro Coordination

Continue to work through the regional forum process, including the Implementation Team (IT), the System Configuration Team (SCT), the Water Quality Team (WQT) and the Technical Management Team (TMT).

14.3 Habitat Coordination

Integrate implementation of habitat actions with the NWPPC, where many regional partners already participate in their process. The estuary measures will be coordinated with the LCREP and other related federal and state partners.

14.4 Hatchery Coordination

Integrate implementation of hatchery actions with the NWPPC, where many regional partners already participate in their process.

14.5 Harvest Coordination

Coordinate implementation of harvest-related actions as appropriate with relevant parties, such as the US v. Oregon process, and ocean management forums, such as the Pacific Fisheries Management Council and Pacific Salmon Treaty.

14.6 RM&E Coordination

Convene a regional RM&E coordination group to collaborate on the assessments of:

- population status;
- critical life cycle uncertainties (i.e., extra mortality, transportation effectiveness);
- feasibility of actions linking management actions to environmental change to survival rate changes;
- development of performance measures and standards; and
- design of analytical framework for evaluation of actions relative to performance measures and standards.

14.7 Coordination with Related Processes

Share the Implementation Plan in a timely manner with related regional processes, including FCRPS cultural resources mitigation program, Tribal, state, and other federal programs.

14.8 Environmental Review

The Action Agencies will implement measures consistent with environmental review, including appropriate levels of NEPA analysis.

14.8.1 Existing Analyses

- SOR EIS

14.8.2 Additional On-going Analyses

- Fish and Wildlife Plan Implementation EIS (preliminary)
- VARQ EIS
- Snake River Feasibility EIS
- ICBEMP EIS
- Others

14.9 Table of Annual Schedule and Milestones of Implementation Planning and Related Processes

14.10 Regional Communications

The Action Agencies will share information on implementation efforts, including the status of progress and Implementation Plans with the region. Potential communications tools include website, newsletters, and briefings.

15.0 Annual Implementation Plan Development and Progress Reports

15.1 Annual Implementation Plan Activities

15.2 Annual Progress Reports

- Timing
- Format