

4. Transition to integrated regional monitoring and evaluation framework

The Fish and Wildlife Program calls for a monitoring program to evaluate whether the individual actions in the subbasins are achieving the objectives of the program stated at the basin and province level. In making its project funding recommendations, the Council seeks to prioritize monitoring activities and methods to evaluate the effectiveness of Program activities and trends in fish and wildlife populations and habitat conditions.

When it approved guidance for the 2007-2009 project selection process, the Council recognized that regional parties have collaborated to define common protocols for monitoring watershed conditions, population trends and the effectiveness of Program measures. The promise of this collaboration is that the information from individual projects and subbasins can “roll up” to broader geographic scales for evaluation of the success of the Program in meeting its objectives.

While this collaborative effort continues, the Council is ready to confirm the priorities for funding monitoring within each of the “H’s” that affect salmon and steelhead survival as well as resident fish and wildlife response to Program measures. In the 2007-2009 recommendations, the Council can define expectations for the function that specific projects should perform in support of regional evaluation. The Council can also define which monitoring methods it will prioritize for Program funding and plan for a transition for currently funded methods over a specific period of time.

Preliminary staff recommendation: This recommendation is organized by the components of monitoring needed for Program evaluation. These components relate to each other to provide information on the overall status of fish and wildlife populations in response to Program measures.

1. Hydrosystem survival: The Council will confirm with NOAA Fisheries, the federal action agencies, and the region’s fish and wildlife managers that the design and methods of smolt and adult passage monitoring meets current management needs for guiding river operations annually and evaluating trends in passage survival. The staff has asked Bonneville to review these functions for meeting the requirements of the current Biological Opinion. The Council will determine that the data from passage monitoring is collected and made available consistent with the Program.

2. Habitat: The Council is developing priorities for the collection of data to evaluate changes in watershed conditions relative to the assessments used for the first set of subbasin plans. Because much of that data comes from other funding agencies, the Council will set priorities for collecting such data regionally and to support confirmation of monitoring protocols for regional consistency. The Council is also prioritizing limited research focused on fish habitat project effectiveness.

2a. Watershed condition data funded through the Program: Where projects are prioritized to collect data that indicate the condition of habitat for fish and wildlife, the Council recommends that such data be focused first on the priority indicators

needed to inform future subbasin planning. For discussion purposes in this memo, those indicators are: water temperature, flow, passage, benthic macro-invertebrate assemblages, large woody debris, sedimentation, dissolved oxygen, nutrients, and stream morphology.

The Council intends to prioritize funding away from project tasks that collect data on other indicators, or that serve only to inform evaluation of the individual project without specific justification. This transition should be accomplished within three years or the next call for project recommendations.

2b. Aquatic habitat project effectiveness: The Council in its guidance for the 2007-2009 solicitation stated that monitoring for individual habitat projects should be limited to five percent of the project costs. The staff recommends that the strategy to obtain more information on the effectiveness of habitat restoration on fish survival be to prioritize three “intensively monitored watersheds” experiments. These are planned being developed in the Wenatchee, John Day and Salmon River subbasins and were initiated during the last Mainstem/Systemwide process. With PNAMP’s ongoing coordination, these three projects are linked to similar work on the Pacific Coast funded through other sources. In confirming future funding for these experiments, the Council should consider the strength of these experiments in being able to demonstrate that discrete habitat actions result in measurable change in fish survival.

3. Population status and trends: The Program currently funds a wide array of population monitoring which supports both management and ESA delisting analysis. Other work in the basin is funded from other sources such as license fee revenue and other mitigation programs.

For anadromous fish population monitoring proposed for funding in the Program, the Council expects the methods to be consistent with the randomly distributed sampling designs endorsed by the ISRP in its 2005 retrospective report. Prioritized proposals using other sampling designs should provide a transition plan as part of Bonneville contracting.

The appropriate distribution of monitoring sites for abundance, productivity and diversity needs more discussion as part of ESA recovery planning. Distribution may also be determined by the adoption of provincial objectives into the Council Program, currently planned for 2007. Pending those determinations, the Council staff proposes to complete a rough inventory of the distribution of monitoring in the currently funded program. When coverage to support ESA delisting requirements and provincial objectives is determined, the Council will plan a transition to support the prioritized distribution.

Where population monitoring for resident fish is prioritized for funding through the Program, the appropriateness of methods will continued to be reviewed by the ISRP. The staff does not propose a standard protocol at this time.

For wildlife population monitoring, the ISRP has continued to urge the Council to prioritize census monitoring to measure the response of target populations to acquisition and management of habitat. Currently, the Program calls for monitoring habitat value using the Habitat Evaluation Procedure (HEP) methodology. Periodic surveys of the quality of habitat protected by the Program are efficient and will be prioritized in the Mainstem/Systemwide Review. More directly counting estimating the changes in target wildlife species population and determining the specific influence resulting from habitat acquisitions is likely to be more expensive and will require the development of landscape level population estimates. The staff recommends continuing to use the HEP methodology as an accounting mechanism for tracking Bonneville's obligations for wildlife mitigation in the Program but will continue to review alternative procedures for monitoring population responses as proposed by the ISRP.

4. Hatchery monitoring: The Program funds significant activities related to hatchery performance. There are two issues for Council guidance in the 2007-2009 project selection process: linking the Program's supplementation effectiveness monitoring into a more integrated regional experiment, and the level of funding for monitoring of hatchery performance against project objectives and effects on naturally spawning populations. The Council also continues to collaborate on regional hatchery review and reform processes.

4a. *Prioritize Designate the design of an integrated supplementation experiment as a priority action:* The monitoring designs for each of the Program's supplementation projects have received ISRP review for design and outcomes. The ISRP is reviewing each project's design again this year. However, both the ISRP and ISAB have urged that the monitoring of projects be linked together so that the results from one project might serve the needs of others and diminish the need for each project's design. For example, the control stream used for one project might serve others with similar applications of supplementation techniques. The staff recommends that the Council prioritize development of an integrated regional design for completion and scientific review in 2007.

4b. *Hatchery performance monitoring:* For 2007-2009, the staff recommends funding that the ISRP review determines is appropriate, subject to budget capacity. with ISRP review of the appropriateness of each hatchery's performance monitoring in 2007-2009 The Council staff and Bonneville should determine that the data from each project's monitoring is being reported to the region consistent with the Program's standards for timeliness and accompanying metadata.

5. Estuary habitat status and trend monitoring: As called for in the Program, the ecological status of the Columbia River estuary and plume has been treated as a planning unit in subbasin planning and project selection. The 2000 and 2004 Biological Opinions also assigned responsibility to the federal action agencies for monitoring of the estuary. Although there have been several successful estuary

research projects, the design of a pilot estuary monitoring project has not been successful in independent scientific review. Proposals have been made for 2007-2009 and are being reviewed by the ISRP. Monitoring the conditions of the estuary involves a number of other funding partners so the staff will focus on the appropriate role for Bonneville funding in the 2007-2009 project selection process.

6. Ocean harvest monitoring: Program funding supports monitoring of harvest in the ocean through at least two methods: directly through funding of coded wire tag programs and indirectly through dam counts. The staff recommends addressing the adequacy of information and appropriate share of Bonneville funding in the Mainstem/Systemwide project review.

7. Data management: Collecting the data from each of these monitoring components requires specific commitment for delivery to regionally accessible sources. The Council has a memorandum of agreement with other regional parties to confirm a work plan for a web-accessible data portal. The Mainstem/Systemwide project review will prioritize funding for a request for support of the portal with other funding partners. The review will also address the necessary scope and functions of the Streamnet project that is the primary collector and maintainer of data from Program-funded projects. The staff recommends working with sponsors and Bonneville project managers to determine if proposed ongoing projects deliver their data to regional sources consistent with the Program. The staff recommends that meeting this standard become a condition of future contracting and verified by Bonneville project managers as part of project performance review.

8. Basinwide and province performance evaluation: The Program calls for adopting province-scale objectives which will serve as benchmarks to assess how individual actions in subbasins are adding up at broader scales. The Council plans to open the Program for proposed amendments to adopt provincial objectives this year.

Performance against these objectives will guide future funding allocations and management emphasis. From the data collected from the monitoring components listed above, the staff recommends that monitoring of performance against provincial objectives use specific “high level indicators” and for discussion in this draft, those indicators be:

- Fish survival or productivity indicators
- Spatial distribution
- Annual population growth rates
- Ocean productivity indices
- Hatchery releases and return rates
- Habitat conditions, summarized from the watershed condition indicators
- Harvest rates
- Adult and juvenile passage survival through the mainstem dams

9. Reporting: The staff recommends prioritizing the production of an annual report that summarizes the data from the high level indicators proposed above. The Columbia Basin Fish and Wildlife Authority is funded to produce an initial summary report for 2006. The staff expects the content to evolve as provincial objectives are adopted into the Program and specific indicators are confirmed. In the meantime, the staff recommends that the Council review and approve the content for the initial report funded for 2006. CBFWA is presenting an initial content proposal to the Council's Fish and Wildlife Committee at its March meeting.

The staff also recommends prioritizing funding for an on-line peer-reviewed journal for Program-funded research a priority. Specific proposals or an appropriate placeholder for an RFP for such a journal will be reviewed in the Mainstem/Systemwide proposal review.

Comment received: The Committee discussed the tasks proposed by the staff to apply this guidance in developing project funding recommendations. Committee members asked for regular status reports and the names of the staff working on each task.

Staff Recommendation: Reaffirm the preliminary staff recommendation.