



STATE OF WASHINGTON

RECREATION AND CONSERVATION OFFICE

May 2009

Item #10a: Monitoring: Fish-in /fish-out monitoring results

Presented By: Ken Dzinbal, Recreation and Conservation Office

Presented By: Dr. Mara Zimmerman, Washington Department of Fish and Wildlife

Approved by the Director:

Proposed Action: Briefing

Summary

At the October 2008 board meeting, board members asked to have the Washington Department of Fish and Wildlife (WDFW) present an overview of its fish-in/fish-out monitoring, which is part of an overall effort by WDFW to develop reliable estimates of salmon abundance and productivity. The Salmon Recovery Funding Board (board) has contributed funding to WDFW's overall fish-in / fish-out (smolt) monitoring program since 2001. When the board approved WDFW's request for \$208,000 for the 2009 monitoring it raised several questions about how smolt monitoring relates to harvest monitoring, ocean mortality, and other salmonid life-cycle monitoring efforts. The WDFW will give an overview of fish-in/fish-out monitoring at the May board meeting.

Next Steps

WDFW will continue to evaluate priority data gaps in its statewide fish-in / fish-out monitoring effort, and may seek continued support from the SRFB as appropriate.

Attachments

- A. October 2008 WDFW Presentation
- B. May 2009 WDFW Presentation (to be provided at meeting)



Washington Monitoring Forum Framework “Fish in / Fish out”



Salmon Recovery Funding Board

October 17, 2008

Discussion Elements

- Program Goal
- Monitoring Framework
- Cycle of Smolt Work
- History of SRFB Funding
- Current Funding Request

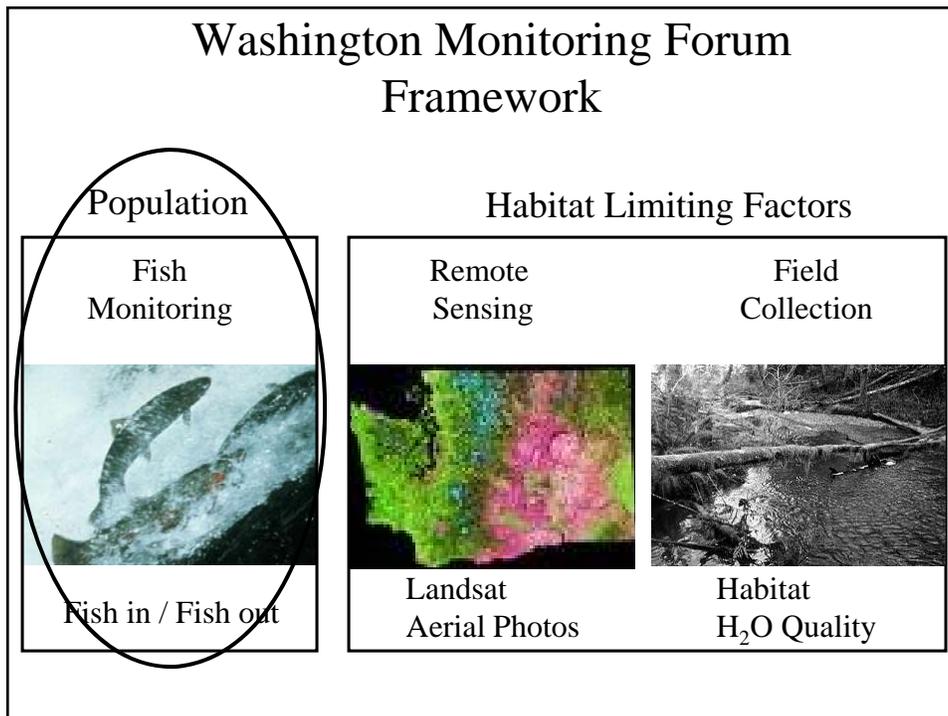
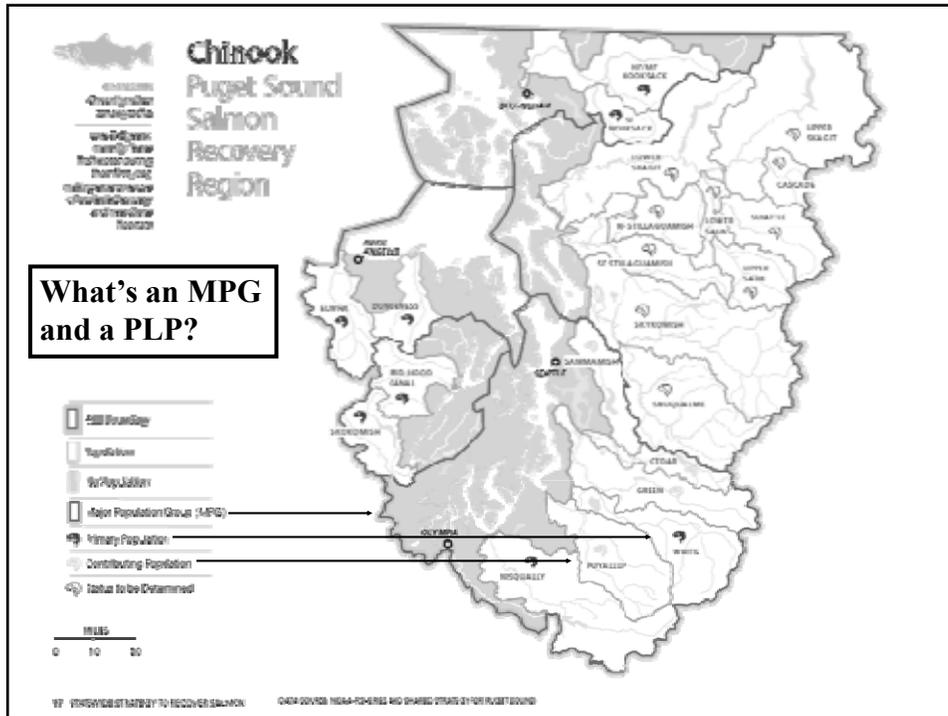
Program Goal

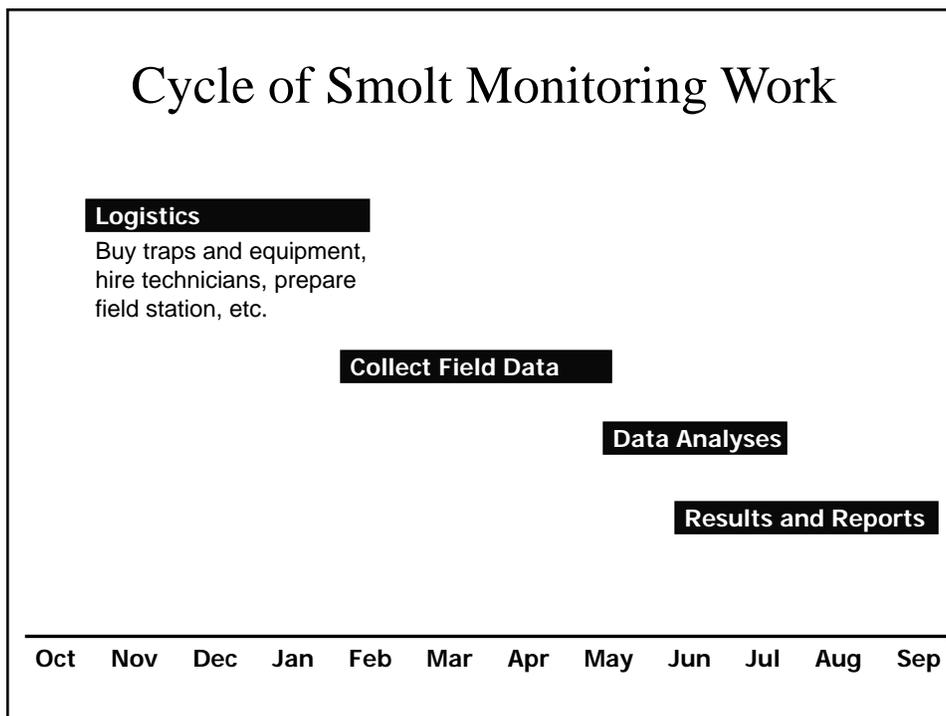
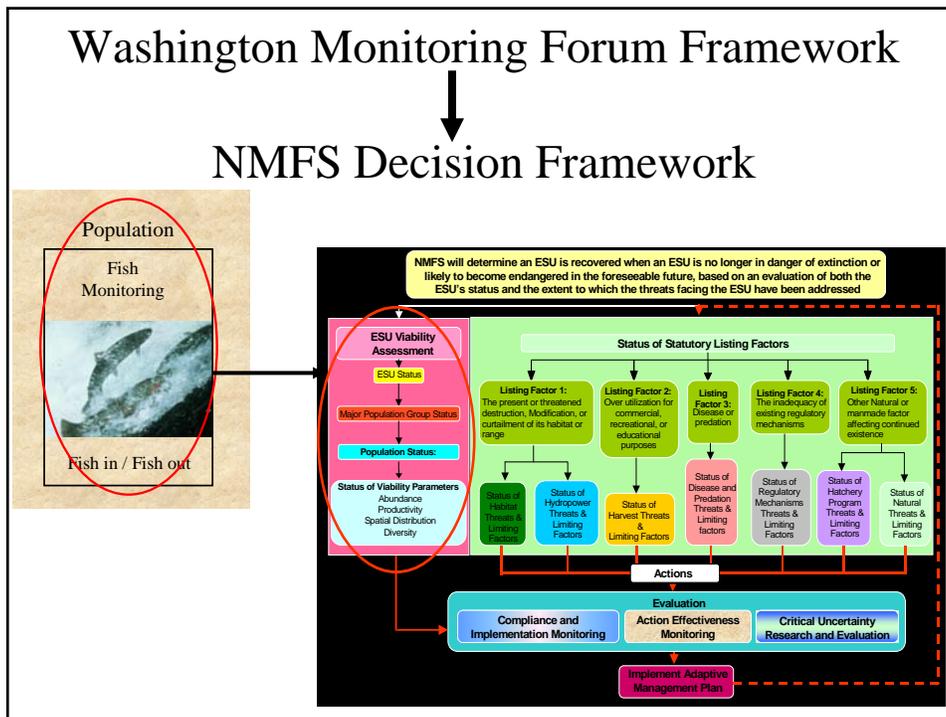
To monitor the number of adult spawners (Fish in) and subsequent smolt production (Fish out) for at least one **Primary Listed Population (PLP)** in each **Major Population Group (MPG)** of each Evolutionary Significant Unit (ESU)

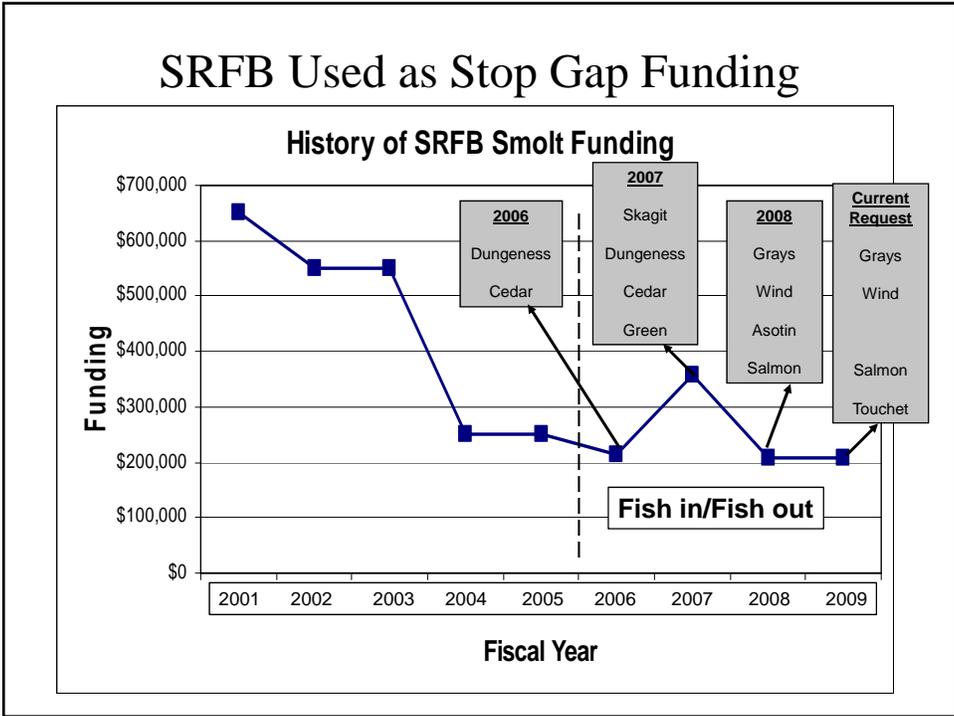
From the Monitoring Forum's "Washington State Framework for Monitoring Salmon Populations Listed under the Federal Endangered Species Act and Associated Freshwater Habitats"

How is Smolt Monitoring Funded?

- WDFW 07/09 Biennial Budget Package
 - Washington Forum on Monitoring
- Dedicated Funding
 - i.e. mitigation funds
- Salmon Recovery Funding Board (since FY 2001)
- Bonneville Power Administration
- Local PUD's
 - e.g. Tacoma City Light and Chelan County
- Tribes, NGO's, and federal agencies







Current SRFB Request

	Fish in / Fish out	Historic Dataset
Grays River = \$74,829	√	√
Wind River = \$20,000	√	√
Salmon Cr = \$32,192	√	√
Touchet River = \$80,750	√	√
Total SRFB Request = \$207,771		

Thank You



STATE OF WASHINGTON

RECREATION AND CONSERVATION OFFICE

May 2009

Item #10b: **Monitoring: Estuarine monitoring protocols**

Prepared By: Ken Dzinbal, Recreation and Conservation Office

Presented By: Dr. Paul Cereghino, NOAA / WDFW

Approved by the Director:

Proposed Action: Briefing

Summary

The Salmon Recovery Funding Board (board) has long recognized the need to develop estuary and nearshore effectiveness monitoring protocols to improve our understanding of, and accountability for, estuary and nearshore restoration projects. The 2008 Pacific Coastal Salmon Recovery Funds (PCSRF) grant includes a placeholder of \$50,000 for development of estuary monitoring protocols.

Both the board and the Estuary and Salmon Restoration Project (ESRP) fund a significant amount of estuarine and nearshore restoration efforts. ESRP is proposing a collaborative effort with the board to develop rapid assessment monitoring protocols for two categories of nearshore restoration projects: large river deltas and wave-driven beach systems. ESRP is seeking guidance and feedback from board members and staff on what should be included in a scope of work (SOW) to test field protocols for nearshore restoration projects. They anticipate completing the joint (collaborative) SOW and funding proposal for presentation later this fall.

Background

The Estuary and Salmon Restoration Project (ESRP) funds approximately \$3 to 4 million of nearshore restoration projects annually. The size and complexity of nearshore restoration efforts has led ESRP and its partners¹ to develop a "learning strategy" intended to improve the design and implementation of estuary restoration actions.

As shown in Attachment A, the learning strategy has seven elements. A key element is the development of rapid assessment monitoring protocols. Rapid assessment protocols use project documentation, inexpensive data collection, and systematic observations to identify whether projects are effective.

¹ Puget Sound Nearshore Program, Washington Department of Fish and Wildlife, National Oceanic and Atmospheric Administration, and the Recreation and Conservation Office



Because ESRP's interest in developing rapid assessment protocols appears to overlap the board's interest in developing protocols for monitoring the effectiveness of estuarine projects, they propose joining in a collaborative approach to develop a joint scope of work and funding proposal for this element of the learning strategy.

Next Steps

If the board is interested in a collaborative approach, ESRP will work with Recreation and Conservation Office staff to draft a proposal to develop estuarine monitoring (rapid assessment) protocols. The joint proposal would be ready to present for board funding consideration in October.

Attachments

- A. ESRP memo and "Learning Strategy"

MEMO April 27, 2009
FROM Paul Cereghino, ESRP Program Manager
TO Salmon Recovery Funding Board
RE **ESRP Learning Strategy and Nearshore Monitoring Protocols**

Dear Salmon Recovery Funding Board,

The Estuary and Salmon Restoration Program (ESRP) is an ‘early action wing’ of the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP). It is administered through a collaboration of WDFW, RCO, and NOAA. At your May meeting I will describe some of our early actions for implementing our *ESRP Learning Strategy* (see attachment).

Salmon recovery project sponsors are currently the principal actors in Puget Sound nearshore restoration. They frequently receive funds from both SRFB and ESRP, as well as from federal sources like NOAA Restoration Center or U.S. Fish and Wildlife Service. We have a shared interest in project accountability and meaningful evaluation, and the opportunity to improve administrative efficiency.

ESRP is initiating two agreements to develop the *ESRP Learning Strategy* (see attachment) for two project settings: large river deltas and wave-driven beach systems. These agreements will combine agency and project sponsor expertise to develop a *Project Classification* scheme, *Rapid Assessment Protocols* and *Adaptive Management Objectives*.

We believe that the ESRP Learning Strategy has value for both nearshore ecosystem restoration and salmon recovery. SRFB projects are a substantial part of the available ‘population’ of projects that we can evaluate to improve efficiency and effectiveness of ecosystem restoration.

I propose that we further develop an active collaboration between ESRP and SRFB staff. I intend to bring a proposal to SRFB for joint implementation of these protocols in October 2009. **I will be seeking guidance from SRFB on what they would like to see in a scope of work for the purpose of collaboratively field testing protocols for evaluation of nearshore restoration projects.**

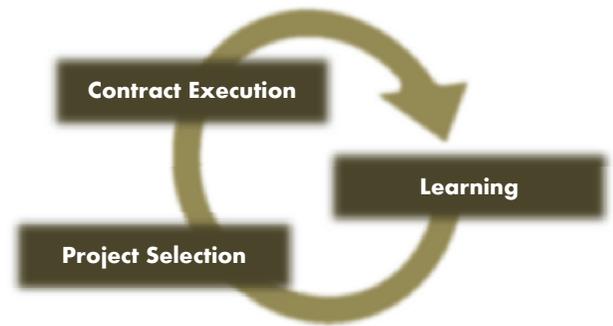


ESRP Learning Strategy

What is the ESRP Learning Strategy?

As stewards of the Estuary and Salmon Restoration Program (ESRP), we realize that the practice and science of nearshore ecosystem restoration is young. There are many lessons to learn that will improve restoration effectiveness and efficiency. The ESRP Learning Strategy describes a group of procedures for learning from active and completed projects, so that we can improve the design and execution of future projects. This cycle is called adaptive management and involves project documentation, monitoring, and systematic analysis of our knowledge base.

A capital grant program such as the ESRP is accountable for spending public funds and is in the prime position to coordinate and motivate improvement of restoration methods. However, developing a stronger knowledge base must not excessively divert funds away from the task of restoration—the goal is not to learn for the sake of learning, but to restore the nearshore ecosystem. We use two elements to extract knowledge from project work: *rapid assessment protocols*, and *project enhancements*.



Rapid assessment protocols use project documentation, inexpensive data collection, and systematic observations to identify if projects are performing well. When rapid assessment points to reoccurring problems where projects don't perform as expected, we develop enhancements. *Project Enhancements* monitor a single site or a group of sites more intensively to isolate and understand factors that are compromising project effectiveness.

How was the ESRP Learning Strategy developed?

The principles of adaptive management provide clear guidance for including learning as part of implementation. In developing the ESRP we've had an opportunity to develop a learning strategy from whole cloth, building from the progress of salmon recovery, and applying ourselves to the challenge of nearshore ecosystem restoration. Several principles have guided this process:

- Good monitoring should be more than just an accountability tool, and can be used to learn about why some projects are more effective than others. This requires consideration of what our questions are, careful monitoring design, and data analyses.
- While data collection can be critical for learning, premature or unfocused data collection can be a wasteful use of limited resources.
- Throughout the restoration project life cycle, contracting methods and project deliverables can be redesigned to support programmatic learning.
- Our learning objectives should be scientifically relevant, feasible in the project context, and actionable in future projects.
- While a capital grant restoration program is well positioned to monitor individual projects or groups of projects, it cannot take on evaluation of regional restoration strategies.

With these principles in mind, the ESRP has been developing a learning system fully integrated into program operations as diagramed on the following page.

Estuary and Salmon Restoration Program

Learning Strategy Element	Status*
<p>Project Classification Projects are described using a classification of Puget Sound landforms and management measures. Our learning objectives and methods are organized around this framework, and are focused on important project types.</p>	<p>All project data are being managed in a prototype database to maximize flexibility during program start up. We are developing a project classification system aligned with the work of the Puget Sound Nearshore Ecosystem Restoration Project (PSNERP).</p>
<p>Adaptive Management Objectives Uncertainties about the effectiveness of common project types are identified and used to develop Adaptive Management Objectives that define what needs to be learned to decrease this uncertainty.</p>	<p>A list of Adaptive Management Objectives has been identified from review of literature and was published in the 2008 RFP to support development of project enhancements.</p>
<p>Project Documentation Contracts require documentation of project goals, design assumptions, as-built treatments, strategic monitoring, and reflection on lessons learned.</p>	<p>Projects contracted through the 2007 and 2008 spending plans included provisions for delivery of project documentation. We are developing mechanisms for systematically tracking delivery.</p>
<p>Rapid Assessment Protocols Rapid assessment protocols, combine quick surveys, analysis of project documentation, site observations, and sponsor monitoring, to determine if projects appear to be functioning well or point to the need for project enhancements or a change in policy.</p>	<p>We have started development of rapid assessment protocols for three project types:</p> <ul style="list-style-type: none"> • beach sediment projects, • beach habitat restoration projects, and • river delta marsh projects.
<p>Project Enhancements A percentage of funds are used to strategically investigate groups of projects to improve effectiveness or efficiency of future work. Enhancement spending is linked to capital spending priorities to focus enhancements on the most relevant on-the-ground needs.</p>	<p>Initial enhancements have evaluated the Olympic Sculpture Park pocket beach, developed prototype river delta monitoring strategies, and are setting standards for wood waste projects. The 2009 Spending Plan includes enhancement recommendations.</p>
<p>Publication and Facilitation Project documentation is internet published to support transfer of learning. Regional conference activities and workshops build and share our knowledge base and shape program policy.</p>	<p>We have hosted regional workshops prior to each request for proposals and are leading nearshore sessions in the RCO Salmon Recovery conference in 2009. We are evaluating PRISM and the Ekosystem Platform for publishing work products.</p>
<p>Policy Review Project selection and contracting procedures are reviewed to incorporate project based learning prior to each competitive request for proposals.</p>	<p>We reviewed and published an ESRP Strategy and Guidance document prior to our October 2008 RFP and are preparing for debriefing and revisions following development of the 2009 spending plan.</p>



STATE OF WASHINGTON

RECREATION AND CONSERVATION OFFICE

May 2009

Item #10c: Monitoring: Forum recommendation report

Presented By: Ken Dzinbal, Recreation and Conservation Office

Approved by the Director:

Proposed Action: Briefing

Summary

In October 2008, the Salmon Recovery Funding Board (SRFB) discussed its current approach to monitoring, and how to ensure that they invest in the most important and useful monitoring. Some members of the SRFB expressed an interest in input from the Washington Forum on Monitoring (Forum) on SRFB monitoring priorities. In addition, the board's draft strategic plan sets forth monitoring strategies and actions.

As reported in February, the Forum convened a workgroup to review current SRFB programmatic monitoring efforts. The workgroup has met several times, focusing first on the current core monitoring programs supported by the SRFB.

Two board-funded monitoring programs (Project Effectiveness Monitoring and Intensively Monitored Watersheds) will expire on June 30 unless the board extends the contracts at the May meeting (see Item #10d). Because a decision point is at hand, the Forum has prepared some preliminary recommendations related to these two programs.

The Forum will continue working to complete its review of SRFB monitoring, and will provide more comprehensive recommendations on the SRFB's overall monitoring strategy by late summer or early fall.

Attachments

- A. Preliminary Forum recommendations (available at the May 14 SRFB meeting)





STATE OF WASHINGTON

RECREATION AND CONSERVATION OFFICE

May 2009

Item #10d: Monitoring: Contracts for effectiveness monitoring and intensively monitored watersheds

Presented By: Ken Dzinbal, Recreation and Conservation Office

Approved by the Director:

Proposed Action: Decision

Summary

Two contracts supporting the Project Effectiveness Monitoring Program and the Intensively Monitored Watershed Program will expire on June 30, 2009. These are the two largest monitoring programs funded by the Salmon Recovery Funding Board (board). Without extensions, the programs will have to terminate fieldwork and forgo any further data compilation, analysis, or reporting as of June 30, mid-way through the 2009 field season.

Staff Recommendation

Recreation and Conservation Office (RCO) staff recommends extending both contracts and providing funding to complete 2009 field monitoring as well as subsequent data compilation, assessment, and reporting through April 2010. Staff further recommends that on-going funding and contract timing be discussed later this summer or fall after the board receives the final recommendations from the Forum, and takes into consideration any additional programmatic or technical revisions or updates to board monitoring investments.

Proposed Motion Language

Move to approve a contract extension for the project effectiveness monitoring program through April 30, 2010 and provide additional funding of \${cost to be presented at meeting}.

Move to approve a contract extension for the intensively monitored watershed program through April 30, 2010 and provide funding of \${cost to be presented at meeting}.

Background

Both the Project Effectiveness Monitoring Program and the Intensively Monitored Watersheds Program were planned as long-term monitoring efforts that would extend for 10 or more years. However, in keeping with federal grant awards, the board has awarded the contracts and agreements supporting these programs in successive increments of one or two years.



Effectiveness Monitoring

The purpose of this contract is to determine whether board-funded habitat restoration and protection projects are effective (i.e. result in improved habitat characteristics) at the local (or stream-reach) scale.

To do this, the program evaluates a randomly selected subset of individual projects and worksites distributed over the entire state. TetraTech monitors statistically valid subsamples of projects in nine different categories including: fish passage, riparian plantings, instream structures, livestock exclusions, constrained channels, reconnected channels, gravel placement, diversion screening, and habitat protection projects.

TetraTech's work began in 2004 under a contract for \$699,595. As shown in the table, the contract has been amended four times: twice to add additional funds, and twice to extend the period of performance. The contract is due to expire on June 30, 2009.

The cost of a contract extension through April 30, 2009 currently is estimated at \$355,000, but is subject to final revision before the board meeting.

Contract Component	Timeframe	Amount
Original award	April 2004 – Dec 2006:	\$699,595
Amendment 1		+\$908,000
Amendment 2	Dec 2006 – Dec 2008	
Amendment 3		+\$908,000
Amendment 4	Dec 2008 – June 2009	
Total to-date	April 2004 – June 2009	\$2,515,595

Intensively Monitored Watersheds

Washington's Intensively Monitored Watershed (IMW) strategy is a long-term effort intended to evaluate the effectiveness of habitat restoration activities in actually increasing the production of salmon. The objective of the IMW program is to determine and quantify the response of fish to restoration actions. In September 2009, the board approved \$1.47 million for the Department of Ecology to continue monitoring activities in four Intensively Monitored Watershed (IMW) complexes during state fiscal year 2009. The current contract and funding expire on June 30, mid-way through the 2009 field season.

The cost of the contract extension through April 30, 2009 currently is estimated at \$1,467,000, but is subject to final revision before the board meeting.

Analysis

To avoid interrupting these long-term monitoring programs part-way through an active field season, RCO staff recommends extending the current contracts to allow completion of the 2009 field season including normal data compilation, assessment, and reporting that will continue through April 2010. Highlights of the staff analysis are shown in Attachment A.

Next Steps

If approved, staff will develop grant agreements for project effectiveness and IMW monitoring for FY 2010, covering the period July 1, 2009 – April 30, 2010.

The board would consider amendments to continue monitoring at a future meeting.

Attachments

- A. Staff analysis of contract extensions

Attachment A: Staff Analysis of Contract Extensions

Effectiveness Monitoring

Benefits of Extending the Contract	Consequences of Not Extending the Contract
<ol style="list-style-type: none"> 1. Maintains the SRFB's flagship program for determining the effectiveness of board-funded habitat restoration and protection projects. 2. Maintains continuity of data at project sites – allowing for statistically valid future change/trend analyses 3. Allows collection of baseline and year 1 data for newly-added or newly-implemented projects 4. Maintains consistency of monitoring and sampling protocols across numerous projects, sites, and years to minimize sample variability. 5. Maintains trained, experienced field staff – reducing costs and improving the likelihood of collection of higher quality field data 6. Protects current level of investment in 2009 field season 	<ol style="list-style-type: none"> 1. The program would expire and further data collection in 2009 would stop. 2. The SRFB would be without any program specifically designed to determine the effectiveness of funded projects. 3. Washington's competitive position for 2009 PCSRF funding would be reduced if we discontinue the Project Effectiveness Monitoring Program 4. The SRFB would be dropping the 4th (out of 76) ranked recommended action in the State Comprehensive Monitoring Strategy 5. The SRFB would be dropping a monitoring program called for in its own SRFB Monitoring Strategy 6. Monitoring data required by PCSRF would be incomplete 7. The SRFB could risk not meeting the PCSRF grant requirement to allocate 10% of all funds for monitoring 8. Data collected to-date in 2009 would be incomplete (e.g. insufficient sample-sizes collected) and therefore lose significant value (meaning there would be little return on the value of funds already invested in the 2009 monitoring effort) 9. Ability to statistically determine actual changes or trends over time would be compromised for many parameters/metrics. 10. Baseline and first-year implementation data would be lost for newly-added projects. 11. Tetra Tech field crews would be dismantled. Future re-starts would require new hiring and new training (increasing start-up costs) and possibly compromising data quality/continuity. 12. Once expired, re-starting the program would likely require issuing a new RFP and re-bidding the entire effectiveness monitoring contract. 13. Failure to continue the program through the 2009 field season would be inconsistent with the Monitoring Forum's preliminary recommendations.

IMW Monitoring

Benefits of Extending the Contract	Consequences of Not Extending the Contract
<ol style="list-style-type: none"> 1. Maintains the SRFB's main program designed to determine whether habitat restoration and protection actions can actually increase fish production at the watershed level. 2. Maintains continuity of data in IMW watersheds – allowing for statistically correct future change/trend analyses 3. Maintains consistency of monitoring and sampling protocols across the IMW watersheds, sampling sites, and years to minimize sampler variability. 4. Maintains trained, experienced field staff – reducing costs and improving the likelihood of collection higher quality field data 5. Protects current level of investment in 2009 field season 	<ol style="list-style-type: none"> 1. The program would expire and further data collection in 2009 would stop. 2. We would need to drop our reference to the IMW program from the 2009 PCSRF grant application. 3. The SRFB would be dropping the 8th (out of 76) ranked recommended action in the State Comprehensive Monitoring Strategy 4. The SRFB would be dropping a monitoring program called for in its own SRFB Monitoring Strategy 5. The SRFB could risk not meeting the PCSRF grant requirement to allocate 10% of all funds for monitoring 6. Data collected to-date in 2009 would be incomplete (e.g. insufficient sample-sizes collected) and therefore lose significant value (meaning there would be little return on the value of the funds already invested in the 2009 monitoring effort. 7. Ability to statistically determine actual changes or trends over time would be compromised for many parameters/metrics. 8. Baseline and first-year implementation data would be lost for newly-added projects. 9. Ecology's (and it's cooperators and sub-contractors) field crews would be dismantled. Future re-starts would require new hiring and new training across numerous cooperating agencies (increasing start-up costs) and possibly compromising data quality/continuity. 10. Once expired, re-starting the program would likely require issuing a new RFP and re-bidding the entire program. 11. Failure to continue the program through the 2009 field season contradicts the Washington Forum on Monitoring's preliminary recommendations