

Shared Strategy Instream Flow Assessment Protocol Identification and Funding of Pilot Projects

Request for Qualifications

1. Background

This Request for Qualifications (RFQ) is being offered by The Puget Sound Shared Strategy.

For at least the last five years the central Puget Sound region has seen a growing interest in understanding the effects of changing hydrology and related instream conditions on salmon populations and how these factors can be managed to support salmon recovery goals. Key drivers for were the listing of chinook salmon and bull trout under the Endangered Species Act (ESA) in 1999, which raised the importance of evaluating key factors that must be addressed to ensure the achievement of sustainable and harvestable salmon populations. Hydrology, and more specifically how various land and water management actions relate to instream uses, is recognized generally as one of these key factors. Several efforts have attempted to make progress in ensuring that the region appropriately addresses instream flow issues relevant to salmon recovery in a Recovery Plan.

One of these efforts has been the development of watershed plans in the Water Resource Inventory Areas (WRIs) throughout the Puget Sound basin. Each of the plans now being developed follows on the identification of limiting factors for salmon in reports prepared by the Washington Conservation Commission. These limiting factors analyses, augmented in some watersheds by further technical analyses done by the watershed planning group or its members, have identified instream flow-related factors as limiting in all but a few watersheds. The development of these plans is generally guided by state legislation –RCW 77.85 (HB 2496—Salmon Recovery Act) and/or RCW 90.82 (HB 2514—Watershed Planning Act) – and by suggested plan structure from a range of sources including NOAA, WDFW, and the Shared Strategy. While this collective guidance should foster plans with close consideration of hydrologic factors, the degree to which any of these plans closely follow one or more sources of specific guidance varies from watershed to watershed.

The second of these efforts is the Puget Sound Shared Strategy (Shared Strategy). This collaborative process is intended to produce the official Recovery Plan under the ESA for Puget Sound chinook salmon. The Shared Strategy process is closely related to the watershed planning processes described above: each watershed plan is intended to serve as a “chapter” in the regional Recovery Plan. The administrative rules for Recovery Plans call for the Recovery Plan to identify what conditions and actions are essential for the recovery of the listed species. It is widely recognized that the Recovery Plan will not be sufficient if it fails to incorporate specific measures to help identify and address hydrologic factors that significantly affect habitat necessary for healthy chinook

salmon populations. The initial review, during the summer and early fall of 2004, by Shared Strategy of anticipated watershed plan content has shown that hydrologic factors are unlikely to be addressed thoroughly and sufficiently in the final Recovery Plan chapters.

The third of these efforts is work within the central Puget Sound region to ensure that needs for “water for fish and water for people” are considered together and addressed constructively by decision-makers. This work has happened primarily in two places--the Central Puget Sound Water Suppliers Forum (Forum) and the Governor’s Central Puget Sound Initiative (CPSI). The Forum was created in July 1998 to provide increased coordination in regional water supply planning. In July, 2001, the Forum produced the “Regional Water Supply Outlook” report that summarized long-term “water for people” needs in King, Pierce, and Snohomish Counties. The Outlook recognized the necessity to address “water for fish,” within a collaborative and sustainable water resources program and decision-making process. The Governor’s CPSI, which was convened in late 2001, was intended to develop a comprehensive regional water strategy that would include “fish water” needs. That process evolved into a workgroup with members from the environmental community, King County, and municipal utilities, known as “EKM.” The EKM group developed a proposed approach to regional water issues, including a technical assessment of fish and flow needs, that was submitted to the Governor in April, 2003. In the fall of 2003, the Governor endorsed the essential direction and elements of the EKM proposal. However, the proposal to evaluate water needs for fish has not progressed since then. The current Department of Ecology budget includes \$170,000 to support instream flow analysis/planning in watersheds ranging from the Stillaguamish south to the Puyallup. This money will be used to support the implementation of the successful response to this Request.

Finally, consultants under contract to the Washington Department of Fish and Wildlife have recently completed a report summarizing the state of knowledge of “flow problems” within the Central Puget Sound watersheds – Stillaguamish south to Puyallup (WDFW, 2004, *in review*). Dave Somers, an independent consultant, and John Lombard from Steward and Associates were the leads on developing this report. The report synthesizes current information, drawn from published reports and expert knowledge of local conditions, describing habitat and species problems associated with instream flow conditions. “Low flow” conditions receive particular attention in the report. The report identifies fundamental challenges, discovered during the information gathering and synthesis effort, to defining, identifying, and addressing instream flow conditions that have negative effects (i.e., are “flow problems) on salmon recovery. . These challenges include:

- Incomplete information regarding basic measures of instream flow, e.g., flow gauging, current and historical flow records
- Estimating the relative contribution of different anthropogenic factors that cause changes in instream flow conditions

- Estimating the relative contribution of changes in instream flow conditions to changes in fish populations
- Estimating the likely benefits of different forms of instream flow restoration measures for fish

The report also suggests a general analytical approach that could help address some of the fundamental challenges.

2. Purposes

The Shared Strategy is seeking projects that will serve the following purposes which are derived from the efforts described in the preceding section. These purposes are related to the Examples of Expected Tasks and Deliverables described in the following section and are outcomes that must be supported by the products of the pilot project.

1. Help address the coincident interest, expressed in various salmon recovery and water planning processes, to ensure hydrologic factors related to salmon recovery are appropriately addressed
2. Provide a cost effective tool(s) for evaluating current and future land and water management actions related directly to instream flow conditions and their influence on achieving watershed plan salmon goals (i.e., identifying “flow problems”)
3. Support consideration and implementation, by decision-makers, of beneficial land and water management actions that affect instream flows and salmon recovery
4. Ensure ecosystem-based definition of flow problems and solutions, as per state Independent Science Panel direction
5. Build on and integrate existing tools/data that are useful in addressing the analysis tasks
6. Identify, and address as possible, existing limits on data availability and data/model consistency across watersheds, for example those described in the WDFW/Somers & Lombard report
7. Create a tool supporting analysis incorporating varying degrees and types of hydrologic effects (e.g., diversions and land cover changes, climate variability and climate change, freshwater inputs to estuary areas)

3. Example Analytical Framework and Expected Tasks and Deliverables

This RFQ is intended foremost to support the definition and identification of anthropogenic instream flow- problems significant for salmon recovery and the development of actions that positively influence hydrologic conditions to the benefit of salmon recovery. This focus belies at least three fundamental assumptions:

- Hydrologic conditions are drivers in determining the quality and quantity (i.e., productivity) of freshwater habitat for salmon
- Understanding local hydraulic conditions is essential to the definition and identification of flow conditions and related habitat conditions that are limiting factors for salmon recovery
- Anthropogenic causes of instream flow problems can be discerned from natural environmental causes

While the listing of chinook salmon and ongoing recovery planning are significant drivers for this RFQ, the geographic the reach of responses can extend to areas that are significant for conservation of additional salmon species, e.g., bull trout and coho.

This Request presupposes the receipt and use of its products by decision-making processes in each watershed involving the entities that implement flow management actions that do and/or will significantly influence salmon recovery. Such processes, within and outside of the pilot area, are viewed as an important audience for the work and products supported by this RFQ.

The following Tasks and Deliverables are offered here to provide an indication of the types of activities and products that would likely meet the Purposes of this RFQ. Proposers should use these descriptions as illustrative and not as prescriptive direction for the construction of a response. The reviewers welcome creativity in meeting the RFQ Purposes, including the project schedule, with credible approaches.

Task 1: Develop and apply an analytical tool that defines, locates, and identifies the origins of instream flow conditions affecting the recovery of salmon

Deliverables: Analytical tool, with supporting documentation, describing and employing a methodology that results in the definition, location, and identification of the origins of instream flow conditions affecting the recovery of salmon; summary report describing the tool and its supporting methods and providing and synthesizing the results of the application of the tool in the pilot area

Subtask A: Identify and describe significant current and future flow management actions that affect instream flow in the pilot area.

- For example, diversions from surface and groundwater, land cover changes, flood reservoir operation, reclaimed water inputs, etc.
- Describe the type and degree of influence these actions have or may have on hydrology in the pilot area

Deliverables: Narrative and maps describing significant current and future flow management actions in the pilot area. Narrative includes

qualitative/quantitative estimate of the relative hydrologic effects of significant flow management actions.

Subtask B: Develop hypotheses regarding significant anticipated ecological conditions affecting salmon resulting from flow management actions in the pilot area.

- Using scientific literature that pertains to the geographic and landscape setting of the pilot area, describe ecological role(s) of different hydrologic conditions, including “low flows”, under natural flow conditions.
- Using scientific literature that pertains to the geographic and landscape setting of the pilot area, identify indicators of ecological (habitat and species) effects of altering magnitude, duration, frequency, timing, rates of change of flow regime.
- “Ecological conditions” must encompass both hydrologic and hydraulic factors with a probable and significant effect(s) on salmon recovery

Deliverables: Fully referenced, spatially explicit description of ecological conditions related to flow management actions present or likely to be present in the pilot area.

Subtask C: Characterize hydrologic conditions resulting from management actions in the pilot area.

- Use a hydrologic model (e.g., DHSVM, HSPF) and IHA/RVA metrics in combination with more specific hydrology metrics, with emphasis on hydrologic metrics shown to be most relevant to hypotheses described in Subtask 1B
- Describe/characterize the natural flow regime and types of alteration in magnitude, duration, frequency, timing, rates of change of flow regime that have occurred in the pilot area
- Characterizations must reflect the dominant hydrologic regime, i.e., either winter rain or winter rain/spring snowmelt
- Characterizations may include the effects of freshwater inputs into estuarine areas

Deliverables: Report providing a quantitative/qualitative description of the status of the most relevant hydrologic metrics under current conditions and in the context of the implementation of likely future flow management actions identified in Subtask 1A.

Subtask D: Characterize hydraulic conditions resulting from management actions in the pilot area.

- Use current hydraulic data (e.g., SSHIAP) and/or a hydraulic model as the basis for characterization, with emphasis on hydrologic metrics shown to be most relevant to the hypotheses described in Subtask 1B

- Describe geology, gradient, channel conditions, floodplain conditions, channel confinement, and other hydraulic conditions interacting with instream flow in ways that influence habitat use by salmon and other species of interest
- Characterizations may include the effects of freshwater flows on habitat structure in estuarine areas

Deliverables: Report providing a quantitative/qualitative description of the status of the most relevant hydraulic metrics under current conditions and in the context of the implementation of likely future flow management actions identified in Subtask 1A.

Subtask E: Characterize effects on salmon recovery in the pilot area.

- Using the results of the synthesis and analysis from Subtasks B – D, identify the likely effects of hydrologic conditions, in combination with hydraulic conditions, on salmon recovery
- Provide a quantitative and/or qualitative description of the effects of flow management actions on salmon productivity, abundance, diversity, and distribution in the pilot area
- Use available data (e.g., SSHIAP) and models (e.g., Ecosystem Diagnosis and Treatment (EDT), Salmon Habitat Integrated resources and Zow-y (SHIRAZ)).
- Using multiple models to analyze the fish response factors is welcome.
- Provide a quantitative and/or qualitative description of the effects of flow management actions on salmon prey/predator species
- Identify potential peripheral habitat conditions affecting salmon productivity, abundance, diversity, and distribution in the pilot area

Deliverables: A report providing a quantitative/qualitative description of the effects on salmon viability measures from hydrologic and hydraulic conditions under current conditions and in the context of the implementation of likely future flow management actions identified in Subtask 1A; identification of hydrologic and hydraulic factors exhibiting the most prominent effects on salmon viability measures through the application of the analysis approach

Task 2: Identify potential management implications in the pilot area

- Relate the findings from the development and application of the products from Task 1 and its subtasks to relevant flow management actions including land use management and diversion management, and other actions as identified

Deliverables: Report describing potential management implications of analysis findings, related as closely as possible to flow management actions identified in Subtask 1A and related more generally to Puget Sound watersheds with similar management settings

Task 3: Communicate findings and results of analysis to local and regional governments and stakeholders

- Provide written documentation of the methods developed and applied in the analysis
- Provide a report describing the findings from Tasks 1 and 2
- Provide recommendations regarding the application of the analysis approach in other watersheds in the Puget Sound basin
- Provide recommendations for next steps in testing and improving the analysis approach employed
- Provide a PowerPoint presentation summarizing the analysis, findings, management implications, and recommendations
- Provide a journal article and abstract ready for submittal to an appropriate professional journal(s)
- Provide oral presentations as needed to describe progress and products to various interested groups including the Shared Strategy Water Quantity Subcommittee, Shared Strategy Development Committee, watershed planning group, tribal leaders and staff, Department of Ecology managers and staff, peer reviewers, and others.

Deliverables: Written reports, visual and oral presentations, data generated using project funding

Figure 1 illustrates how the Tasks described above could be implemented to generate the desired deliverables and provides suggestions for analytical tools (e.g., models) that might be useful in implementing the Tasks.

4. Product Review

All reports and other products shall be subject to review by the Development Committee, Water Quantity Subcommittee and Peer Reviewers as identified. Appropriate revisions and corrections shall be made to work products in response to comments arising from the review process.

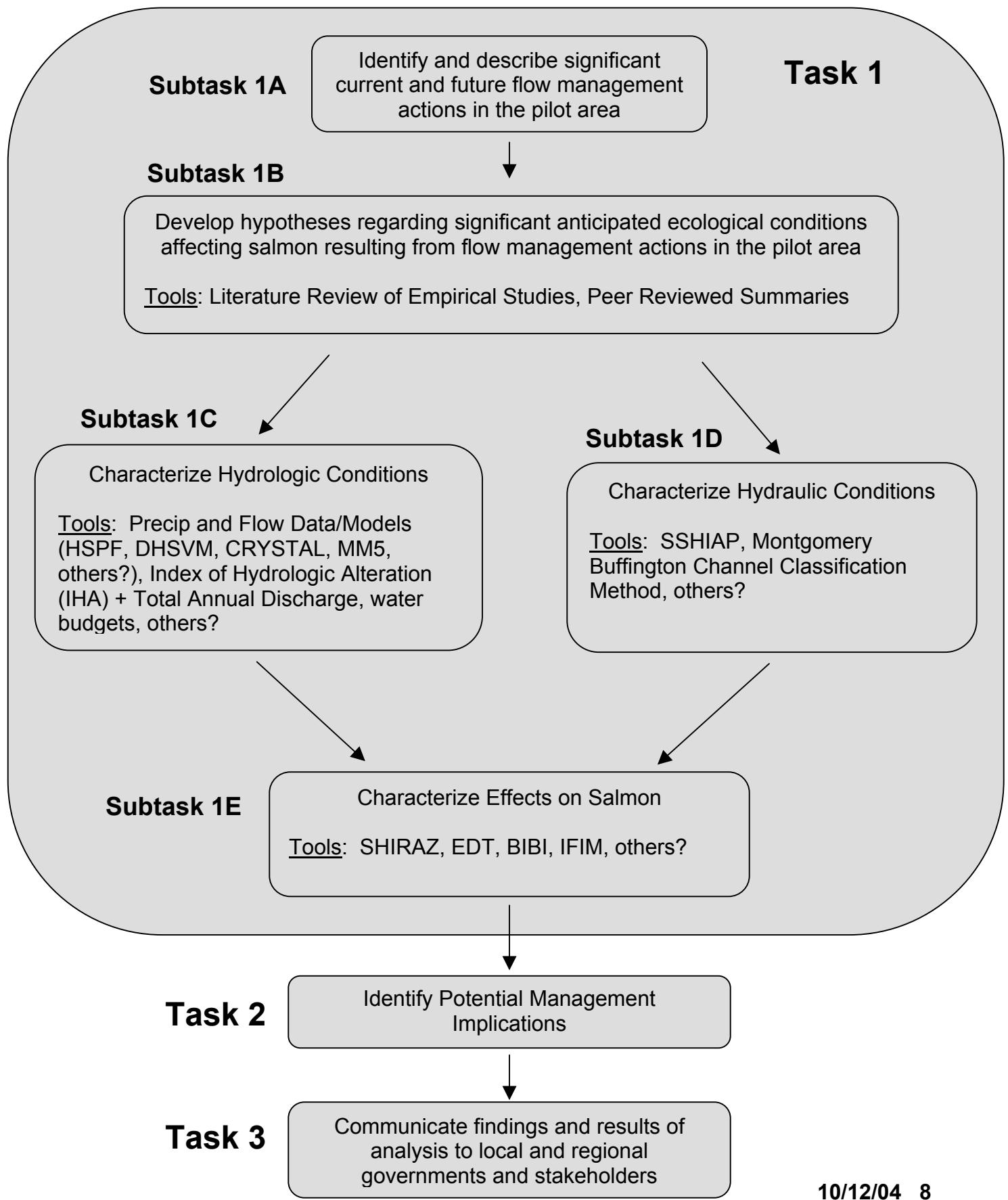
5. Response Evaluation

List of Reviewers

Members of the Water Quantity Subcommittee (Subcommittee) will oversee review of submitted responses. The review team will likely include the following people:

Margaret Duncan, Shared Strategy
 Steve Hirshey, Department of Ecology
 David St. John, Shared Strategy/King County
 Josh Baldi, Washington Environmental Council
 Lloyd Moody, Governor's Salmon Recovery Office
 Carl Samuelson, Washington Department of Fish and Wildlife
 Dave Somers, Northwest Indian Fisheries Commission

Figure 1: Illustrative Project Schematic



Technical Peer Reviewers may be added to the evaluation team.

Key Evaluation Factors

The following factors will guide consideration of responses and the choice of the successful response

- Support by the tribe(s) in the proposed pilot study area
- Support by the watershed planning process that will produce the chapter for the Recovery Plan, e.g., willingness to consider results in the identification of actions for the watershed plan and during plan implementation/adaptive management, and/or exhibited fit with work plan for plan production
- Tools and data necessary for analyses are application ready
- Commitment to schedule and deliverables
- Transferability of products and results to other watersheds in central Puget Sound
- Implementation of analysis in hydrologic scenarios that highlight common and fundamental instream flow management interests, e.g., management of land use and land cover, management of diversions of surface and ground water, species and habitat effects of freshwater flows into estuaries
- Relevance to conservation needs of multiple salmonid species, e.g., chinook, bull trout, and coho

6. Eligibility

Responses will be accepted from the following Water Resource Inventory Areas (WRIA):

WRIA 5 – Stillaguamish
WRIA 7 – Snohomish
WRIA 8 – Lake Washington
WRIA 9 – Green/Duwamish
WRIA 10 – Puyallup/White
WRIA 12 – Chambers/Clover

Responses that incorporate geographic areas in multiple WRIs will be accepted.

Preference will be given to responses submitted by groups that have committed to provide a watershed plan, encompassing the proposed pilot area.

Responses may be developed by staff from government agencies (tribal, federal, state, local), consulting firms, universities, non-governmental organizations, and other entities. Funding may be awarded to more than one proposal provided they address the Key Factors for evaluating responses described in the preceding Proposal Evaluation section.

7. Proposed Contract Arrangement

Shared Strategy is the administrator of the funding for the pilot project. The funding will cover the costs of staff implementing the final negotiated Scope of Work, which will confirm the timeline, tasks and deliverables. Shared Strategy and implementing staff, or their umbrella organization, will execute contracts to facilitate payment based on completion of specified tasks.

Shared Strategy reserves the right to not award funding to any or all responses and to reduce or increase dollar amounts allocated to the successful proposal(s).

All materials (e.g., hard copies of reports, electronic files, etc.) collected as background for Tasks in this RFQ are considered the property of Shared Strategy, Department of Ecology and the lead proposing entity and shall be provided to the three entities upon completion of Tasks or upon joint request by representatives of these entities, whichever is sooner. All interim and final materials created by the implementing staff as part of Tasks within this RFQ are considered the property of Shared Strategy, Department of Ecology and the lead proposing entity and shall be provided to the three entities upon completion of Tasks or upon joint request by representatives of these entities, whichever is sooner.

8. Project Management and Organization

Critical implementation roles will be addressed as follows:

Project Administration and Budget Management – to be performed by Shared Strategy Staff; anticipated tasks include administer and oversee overall project; establish project organization (w/ Water Quantity Subcommittee); receive and reimburse charges for invoices covering completed work tasks; and others as identified

Project Oversight – to be performed by the Shared Strategy Water Quantity Subcommittee; anticipated tasks include confirm purpose of pilot analysis; solicit potential pilot projects; evaluate responses and choose pilot project(s); coordinate with pilot watershed for scope development and implementation; brief Development Committee on pilot progress and products; and others as identified

Pilot Project Management – to be performed by the designated lead of the Project Team; anticipated tasks include take direction from Water Quantity Subcommittee; assist in development of detailed scope, timeline and deliverable schedule; manage implementation of scope by Project Team; provide regular reports on project status and products to Water Quantity Subcommittee; and others as identified

Pilot Project Implementation – to be preformed by the Project Team identified in the successful proposal; anticipated tasks include assist in development of scope; implement project scope; and others as identified

Peer Review – to be performed by technical experts assembled by Shared Strategy; anticipated tasks include review and suggest improvements to project scope prior to implementation; review products to identify necessary changes and ensure technical credibility; and others as identified

Figure 2 illustrates the anticipated organizational structure for the implementation of the pilot project.

9. *Estimated Budget and Schedule*

The total amount available to fund implementation of the pilot project is \$170,000. A portion of this amount, not likely to exceed 10% of the total, may be reserved by Shared Strategy to cover the cost for peer review services.

Anticipated milestone dates associated with this RFQ are currently as follows:

October 15, 2004 – Request for Qualifications distributed

October 21, 2004 – RFQ Review and Information Session for prospective proposers:

1:30 – 2:30 PM
Washington Environmental Council
6th Floor Conference Room
615 2nd Avenue

November 8, 2004 – Deadline for responses

November 23, 2004 – Notice of Award to successful proposal

December 8, 2004 – Project Kick-Off Meeting

December 22, 2004 – Detailed Scope of Work finalized

Week of January 1, 2005 – Project Team convenes to finalize Work Plan and confirm assignments; all contracts executed

February – June, 2005 – Monthly progress reports to Water Quantity Subcommittee

March and June, 2005 – Progress reports to Development Committee

June, 2005 – Public presentation of results and products

June 15, 2005 – Final invoices due to Shared Strategy/Department of Ecology

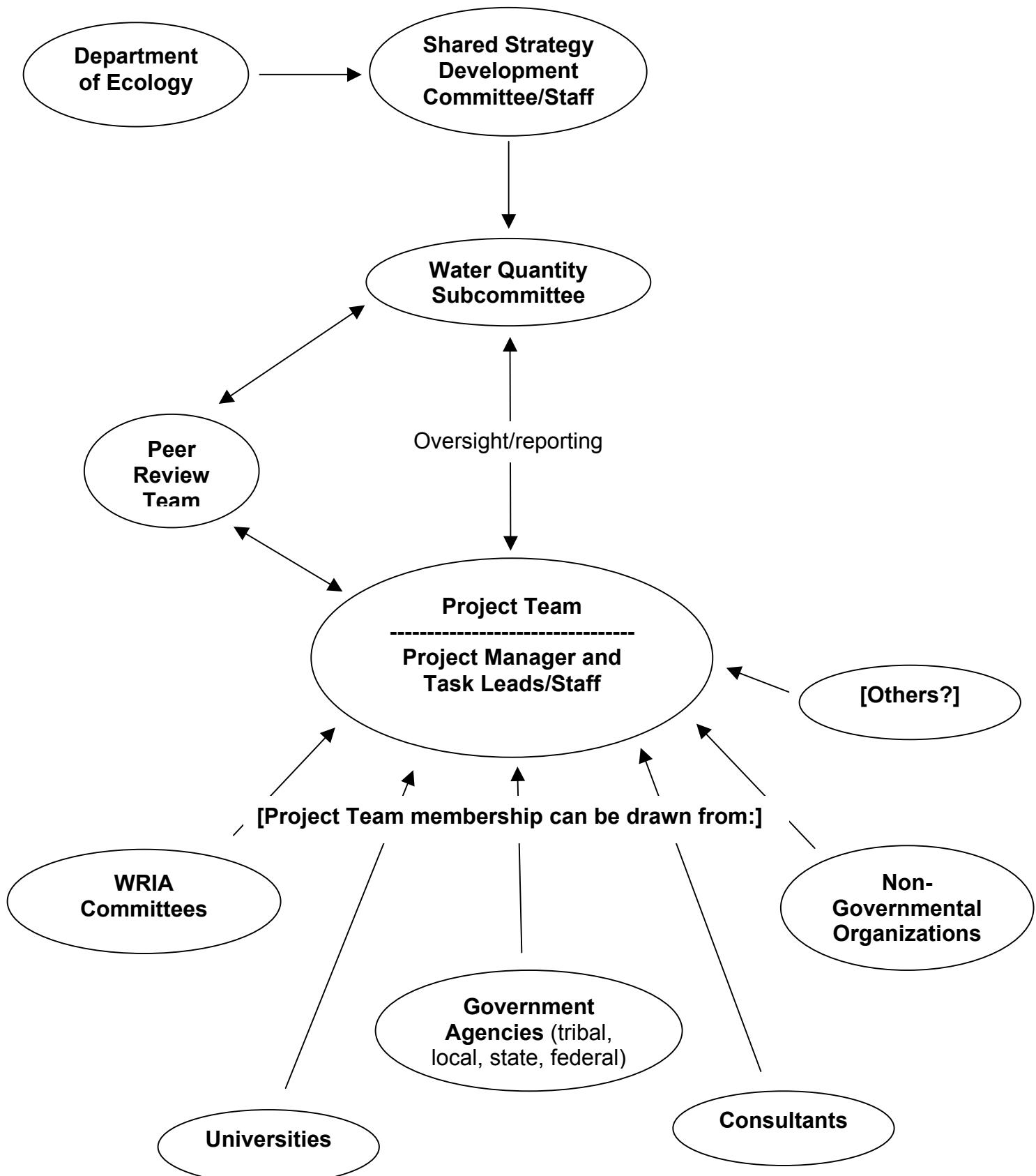
June 30, 2005 – Project budget close-out at Department of Ecology

Milestones may be revised and additional milestones may be added at the discretion of the Water Quantity Subcommittee and/or Shared Strategy.

10. *Deadline for Responses*

Responses are due to Margaret Duncan at the address in the Contact Information section by 2:00 PM PST on November 8, 2004. Responses not received by this time will not be accepted.

Figure 2: Project Organization



11. Format for Responses

Complete responses will include the following:

- A cover letter affirming the interest of the proposer and identifying a single point of contact for the proposal
- A proposed Scope of Work that is responsive to each section of this RFQ
- Résumé's of the Project Manager and all members of the Project Team
- Confirmation of Project Manager and Project Team member availability for the term and scope of the project
- Proposed hourly rate, along with relevant costs (including overhead) and fees, for the Project Team members noted in the Proposal

One (1) electronic (CD) copy and ten (10) hard copies of complete responses should be provided.

12. Contact Information

Questions regarding this RFQ should be directed to:

David St. John
Shared Strategy Water Quantity Subcommittee/King County
Ph: (206)296-8003

The Point of Contact for Project Administration is:

Margaret Duncan
Watershed Liaison
Puget Sound Shared Strategy
1411 Fourth Avenue, Suite 1015
Seattle, WA 98101
Ph: (206)447-1656

13. References

WDFW, Central Puget Sound Flow Report, 2004. (AKA the "Somers/Lombard" report