

PNAMP Workplan for fiscal year 2006

This table describes planned activities of PNAMP Steering Committee, Coordinator, and Workgroups for fiscal year 2006. These activities are placed in the context of the PNAMP strategic plan (*PNAMP Strategy for Coordinating Monitoring of Aquatic Environments In The Pacific Northwest* February 2005). The language in the columns labeled “Outcome” and “Action Item” is directly from the Strategy. Since the Strategy is a multiple year planning guide, we added the column titled “FY06 tasks” to focus on planned accomplishments for this year.

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| PNAMP Objective 1 Develop and Maintain a Monitoring Coordination Framework for the Pacific Northwest | | | | | | | |
|---|--|--|----------|-------------------------------------|------------------------------|---------------------------|----------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| Outcome A. Maintain an operating charter of agency-level signers that formally establishes PNAMP and formal operational practices, and provides guidance for technical participants | Action Item 1. Maintain and update the PNAMP Charter as needed. The Charter includes principles, structure and participation, business practices, and reporting requirements | Continuously respond to entities interested in PNAMP and will facilitate signing of the Charter by new participants. | | Ongoing | None | Coordinator | |
| | | Develop PNAMP Communication Plan, including maintenance of website. | High | January 2007 | None | Coordinator | All |
| | Action Item 2. Develop a business practices document. The business practices document will describe the roles and duties of the various organizational levels of PNAMP and their associated decision making processes and communication mechanisms. | COMPLETE 2004 | | COMPLETE 2004 | | | |
| | Action Item 3. Support the function of and interaction among PNAMP technical workgroups (WGs). | Respond to WG needs, including cross-WG information sharing, meeting facilitation, website assistance, maintenance of membership rosters, etc. | | | Ongoing | None | Coordinator |
| Review WG activities and solicit resources to accomplish WG goals. | | | | Ongoing; annual review of Workplans | None | SC | |

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| | | Facilitate exchange between WG's and Steering Committee (SC), including ensuring timely updates to SC about WG progress and relaying WG requests for assistance to the SC. | | Ongoing | None | Coordinator | |
| | Action Item 4. Seek funding for desired levels of coordination and projects defined by PNAMP workgroups and Steering Committee. Negotiate funding agreements with PNAMP partners. | Review Coordination needs and projects suggested by WGs, prioritizing if necessary. | | Annually | None | SC | |
| | | Solicit resources (direct funding and/or in-kind support) for Coordination and projects from respective agencies and other opportunities as they arise | | Annually | None | SC | |
| | | Assist with budget development, negotiation of fiscal support with government and non-government entities, and managing budgets and associated contracts with government and non-government entities | | Ongoing | None | Coordinator | |
| Outcome B. Identify high level management questions and their | Action Item 1. Identify information needs and coordinate information sharing so that high level | Develop a document to describe "high level management questions" for all PNAMP partners. | <u>High</u> | White paper | <u>In-kind (time)</u> | SC, WGs | <u>All</u> |

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| related hierarchical set of information needs shared by the participating agencies | management questions may be answered by agencies in the region by aggregating monitoring and/or effectiveness research results across different spatial and/or temporal scales | Support the completion of an inventory of “information” <u>“Monitoring Activities”</u> needs” of PNAMP partners. | <u>High</u> | <u>TBD</u> | <u>TBD</u> | SC | <u>All</u> FPM, EST, |
| | | Facilitate coordination of information sharing by: supporting regional data sharing efforts (NED, PNW RGIC, ? others); supporting WG efforts to coordinate protocols, monitoring design, etc | | Ongoing | None | SC | <u>All</u> |
| Outcome C. Encourage the development of science-based monitoring strategies and designs to address key management questions | Action Item 1. Coordinate scientific peer review of PNAMP technical products | Summarize partners’ peer review processes | <u>Medium</u> | White paper; Fall 2006 | <u>In-kind (time)</u> | Subcommittee (Waste, Leider, Busch) | <u>All</u> |
| Outcome D. Provide recommendations to regional executives and monitoring program leads. | Action Item 1. Provide coordinated programmatic approaches that integrate the strategic components of the watershed and fish monitoring, action effectiveness monitoring, and data management workgroups (and other technical workgroups as they are formed). These recommendations will provide guidance for | Prepare presentation(s) for SC to use with Executive Network as needed (minimum once per year) | | Annually (minimum) | None | Coordinator, SC | Yes - all <u>All</u> |

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| | common methodologies, compatible protocols, and partnership agreements needed for regional monitoring programs to achieve the shared coordination objectives of the PNAMP membership agencies | | | | | | |
| Outcome E. Coordinate and recommend standardized sampling protocols and field data collection procedures between Status/Trend, Effectiveness, and Implementation Monitoring efforts. | Action Item 1. Provide opportunities for scientific discussion, comparison and sharing among the module workgroups and regional experts to ensure that all participants are aware of the issues' consistencies and inconsistencies | Recommend forums among technical experts and between scientists, managers, and liaison groups for the collective evaluation and interpretation of current and new knowledge regarding monitoring issues Planned for FY06: <ul style="list-style-type: none"> • Remote Sensing II • Practitioner's Workshop • Invasive species (proposed) | <u>Medium</u> | As recommended | <u>Potential need for room rental, facilitation</u> | SC/WGs to recommend; Coordinator to facilitate | <u>All</u> |
| | Action Item 2. Recommend a core set of indicators that can be shared among all types of monitoring to ensure desired consistency. | Subcommittee will develop core set of indicators. | <u>High</u> | White paper; fall 2006 | <u>In-kind (time)</u> | <u>High Level Indicators subcommittee, with WG leads</u> | <u>All (some indicators will be fish, some watershed condition, some water quality and some project information)</u> |

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| Outcome F. Develop technical workgroups as needed for coordinating additional aspects of the Pacific Northwest aquatic environment. | Action Item 1. Provide a means to include other monitoring efforts in the PNAMP organization | Facilitate formation of new WGs . A “Large Rivers/ non-wadeable streams” WG will be initiated in FY06. Gretchen Hayslip will assist Coordinator with this new WG | | Ongoing | None | Coordinator; Hayslip (“Large Rivers”) | <u>All</u> | |
| | Action Item 2. Conduct a periodic needs assessment of other aquatic monitoring efforts that could benefit from PNAMP participation. | DONE IN 2005; REPEAT 2007 | | | | | | |
| | Action Item 3. Host meetings to facilitate the increased coordination of efforts that are not addressed in current work plans. | SC and WG leads will recommend (and Coordinator will facilitate) when these meetings are prudent | | | As needed | <u>None</u> | SC to recommend; Coordinator to facilitate | |
| | Action Item 4. The PNAMP Steering Committee members will assist in informing the Committee of opportunities for participation by other aquatic monitoring efforts that would benefit from improved coordination | SC and WG leads will inform others when opportunities arise. Coordinator will facilitate interaction | | | Ongoing | None | SC to recommend; Coordinator to facilitate | |
| Outcome G. Develop and implement pilot projects for testing monitoring actions | Action Item 1. Support the Upper Columbia, John Day, and Upper Salmon Pilot Studies as testing areas for comparing protocols and sampling methods. | Clarify level and type of support necessary Develop linkages to other tasks | <u>Low</u> | | <u>unknown</u> | SC, WG leads, Coordinator | <u>All</u> | |

| PNAMP Objective 2. Coordinate Pacific Northwest Watershed Status/Trend Monitoring Efforts | | | | | | | |
|---|--|---|-------------|---------------------------------------|-----------------------|-------------------------------------|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| <p>Outcome A. Identify the key questions that could be addressed with coordinated watershed level monitoring in support of management. Identify the current and proposed metrics, monitoring designs, and evaluation methods that could be used to answer these questions.</p> | <p>Action Item #1. (from Objective 1) <u>Identify information needs and coordinate information sharing so that high level management questions may be answered by agencies in the region by aggregating monitoring and/or effectiveness research results across different spatial and/or temporal scales</u> The initial set of these questions includes the following: 1. <u>What is the status of freshwater habitat within streams of the Pacific Northwest at a sub-basin and statewide scale? What are the trends?</u> 2. <u>What is the status of water quality in streams of the Pacific Northwest at a sub-basin and statewide scale? What are the trends?</u> 3. <u>What is the status of riparian condition (e.g., vegetation, seral state and number of roads) along streams of the Pacific Northwest at a sub-basin and statewide scale? What are the trends?</u> 4. <u>What is the status of upslope condition (e.g., vegetation, seral state, and number of roads) along streams of the Pacific Northwest at a sub-basin and statewide scale? What are the trends?</u></p> | <p><u>Participate in the development of a document to describe “high level management questions” for all PNAMP partners</u></p> | ? | | <u>In-kind (time)</u> | <u>Steering Committee, WG leads</u> | <u>All</u> |
| <p>Outcome B. Identify, develop and recommend a standardized set of metrics and</p> | <p>Action Item #1. Develop and recommend a regional aquatic monitoring design covering the states of Washington, Oregon, Idaho, and Northern California, using the EMAP probabilistic GRTS design developed by the EPA to ensure random, spatially balanced placement of</p> | <p>Convene a series of workshops to discuss the general integrated sample design concept developed by Phil Larsen (EPA).</p> | <u>High</u> | <u>Series of workshops; end of FY</u> | <u>In-kind (time)</u> | Phil Larsen (EPA) | <u>All</u> |

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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| compatible protocols for sampling designs and data collection | sampling sites (Peck, et al. 2001). | <p>Conduct workshops with “state stratum” to design probabilistic sample designs that meet individual state needs.</p> <p>Conduct “fact finding” effort to determine if Idaho and California agencies want to be part of a master sample design.</p> <p>Serve as a “clearinghouse” of how different agencies/groups are setting up probabilistic sample designs.</p> | | | | | |
| | Action Item #2. Identify target confidence levels for detecting different levels of change in status indicators over time. Change overtime will vary depending upon the variable measured and the environmental conditions. Although it would be preferable to have a higher level of certainty in establishing watershed condition, the size of the | <u>NOT AN FY06 TASK</u> | | | | | |

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| | geographic area involved, variability in the indicator, and the overall costs of monitoring will determine the level of confidence that may be targeted | | | | | | |
| | Action Item #3. Recommend a core set of attributes and protocols for state, federal, and tribal monitoring programs to use for collecting field data used in assessing status and trends in watershed condition. | Complete the comparison of field attributes and sampling protocols and make recommendations on the “best” protocols to use, or appropriate cross-walks between protocols. | High | Report/manuscript (spring/summer 2006) | Travel funds (\$5000) | Steve Lanigan /Brett Roper (USFS) | Effectiveness |
| | Action Item 4. Encourage pilot studies (field season tests) to resolve issues concerning conflicting protocols or attributes | <u>Not FY06 task – future studies dependent on results of Item #3COMPLETE FY05 SEE ACTION ITEM #3 ABOVE</u> | High | | | | |
| | Action Item 5. Verify and recommend regional performance benchmarks for each monitoring indicator or suite of indicators. Indicators in themselves do not provide a means for evaluating results. Performance targets or benchmarks are needed to give meaning to the results and provide a sound basis for adaptive management. Benchmarks allow us to identify limiting habitat conditions and track progress. In some | <u>NOT AN FY06 TASK</u> | | | | | |

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| | cases, such as the Clean Water Act, the targets are established by law. | | | | | | |
| | Action Item 6. Identify and implement a process for developing/ refining common GIS layers. | Identify who is developing GIS layers, and status of the layer. We will recommend development of additional needed GIS layers. | <u>Medium</u> | Summary; recommendations; Winter 2006 | | Steve Lanigan (USFS) in coordination with data management WG me date | <u>All</u> |
| Outcome C. Identify regional watershed monitoring efforts, including agency specific activities, that are key components of a monitoring network. | Action Item 1. Inventory existing watershed level monitoring efforts across the region | <u>Support "Monitoring Activity Inventory"</u> | <u>?</u> | | | | <u>All</u> |
| | Action Item 2. Develop and recommend standard reporting metrics for these monitoring projects. | <u>NOT AN FY06 TASK</u> | | | | | |
| | Action Item 3. Develop a regional map with agencies identified geographically | <u>To be developed as part of the</u> | | | | | |

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|---|---|--|-------------|-------------------------------|-----------------------|--|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | that are funding and implementing watershed condition monitoring. Identify common areas of interest where coordination efforts could result in cost efficiencies. Update annually. | <u>“Monitoring Activity Inventory”</u> | | | | | |
| | Action Item 4. Develop a short list of indicators common to all regions that can be integrated to produce summarized reports suitable for describing regional progress to the public and to the highest level of government. | <u>Participate in the identification of a core set of indicators that can be shared among all types of monitoring to ensure desired consistency</u> | <u>High</u> | <u>White paper: fall 2006</u> | <u>In-kind (time)</u> | <u>High Level Indicators subcommittee, with WG leads</u> | <u>All (some indicators will be fish, some watershed condition, some water quality and some project information)</u> |
| | Action Item 5. Facilitate a discussion towards the creation of a regional network of watershed monitoring activities. | <u>Participate in the discussion of regional networking. Use Inventory effort to identify network. Continue outreach efforts to expand FPM membership.</u> | <u>High</u> | | <u>In-kind (time)</u> | <u>Steering Committee</u> | <u>All</u> |

PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts

| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
|--|---|---|----------------------|---------------------------------|------------------------------|---|--|
| <p>Outcome A. Identify the key questions that could be addressed with coordinated fish population monitoring in support of management. Identify the current and proposed monitoring metrics, monitoring designs, and evaluation methods that could be used to answer these questions.</p> | <p><u>Action Item #1. (from Objective 1) Identify information needs and coordinate information sharing so that high level management questions may be answered by agencies in the region by aggregating monitoring and/or effectiveness research results across different spatial and/or temporal scales.</u> <u>Action Item 1. Develop Survey Method and work with Agencies such as BPA to finalize Key FPM technical and management questions. Ongoing with other PNAMP workgroups</u></p> | <p><u>Participate in the development of a document to describe “high level management questions” for all PNAMP</u> <u>Develop Survey Method and work with Agencies such as BPA to finalize Key FPM technical and management questions.</u> <u>Work with Fish Population Monitoring Group members to better define the list of key questions to be answered by coordinated monitoring across the region. Initial questions include estimates of the VSP Parameters (abundance, diversity, distribution, and productivity) at the regional, ESU, and population scales.</u></p> | <p><u>Medium</u></p> | | <p><u>In-kind (time)</u></p> | <p><u>Steering Committee/ FPM WG Leads</u> <u>Member agencies, Fish Population Workgroup and other PNAMP work groups</u></p> | <p><u>All Questions would involve other workgroups as well, especially in the case of effectiveness monitoring for fish population response to habitat restoration actions, as well as recovery plan monitoring.</u></p> |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| <p>Outcome B. Identify, develop and recommend a standardized set of metrics and compatible protocols for sampling designs and data collection.</p> | <p>Action Item 1. Publish FPM Protocols. Support and assist recent collaborative efforts of the Washington Department of Fish and Wildlife and the Wild Salmon Center with respect to resolving fish protocol issues and the standardization of methods used to count fish.</p> | <p>Publish FPM Protocols.</p> | <p>High</p> | <p>Publication (soft copy and online) of recommended procedures for the application of common methods of capturing and counting salmonids. Draft due complete ed by December September 2005. Final due March ready for publication in January 2006</p> | <p>\$35k</p> | <p>Jennifer O'Neal, David Johnson, Wild Salmon Center Staff, Ecotrust Staff, FPM Members as reviewers</p> | <p>Protocols/ procedures can be included as part of effectiveness monitoring for fish population response to habitat restoration. Document will include a section on data management that will assist with data needs assessment.</p> |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
|---|---|---|----------|--|--|---|---|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | Action Item 2. Develop Standardized Field Method Training Manual Format. | Recommend a coordinated method manual approach to sampling juvenile and adult abundance in the region through the development of Field Manuals for use in training and institutionalizing “field methods” which is where significant deviation and misinterpretation of “protocols” emanates. | High | Coordinated recommendations for describing procedures to sample juvenile and adult abundance for salmonids. September 2006 | .16 FTE or ~\$10k (based on GS-12) FTE | Fish Population work group members, working with Governor’s Forum Members in WA, WA. State Framework, Upper Columbia, NWFS C, John Day, OBME P etc. | Protocols/ procedures format can be included as part of watershed conditions, effectiveness monitoring and data management for fish population response to habitat restoration. |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
|---|---|---|----------------------|--|---|---|---|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | Action Item 3. Research and Develop telemetry and tagging and marking guidelines <u>Encourage a more comprehensive and standardized approach to tagging and evaluating naturally produced juvenile migrants and adults in order to verify assumptions about data derived from hatchery origin coded wire tags.</u> | <u>Planning and design to be accomplished in FY06</u> Encourage a more comprehensive and standardized approach to tagging and evaluating naturally produced juvenile migrants and adults in order to verify assumptions about data derived from hatchery origin coded wire tags. | Med/ High | Guidelines for design, report on available and most applicable technologies . September 2007 | 55k In-kind (time) | Contractor | Data Management |
| | Action Item 4. Interact with the Collaborative System-wide Monitoring and Evaluation Project (CSMEP) for the Columbia River Basin in regards to its coverage of monitoring of fish populations, meeting protocols and performance metrics of interest to PNAMP, and addressing other action items listed under CSMEP objectives. | Ongoing collaboration with CSMEP; focus on template for sample design, protocols, and metrics for fish population monitoring | High | Template for sample design, protocols, and metrics for fish population monitoring September 2006 | \$0 Cost covered by action item 1 and 2 In-kind (time) | CSMEP will develop template and may be able to adapt to regional approach for PNAMP. Otherwise, FPM members will address. | Template could be used by Effectiveness <u>Monitoring WG</u> group; other PNAMP partners such as NOAA, as a model for the appropriate application of sample design, protocols, and metrics depending on the type of question and scale to which the question is applied. |
| | Action Item 5. Compare and test fish collection protocols and sample designs for desired results | Develop plan for protocol test similar to Watershed Conditions WG to compare sets of methods | <u>Medium</u> | Protocol test to compare sets of methods to | ?? based upon review of watershed | Would need broad participation | <u>Watershed WG, Estuary WG.</u> Testing would allow the best habitat monitoring |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
|---|--|---|-----------------------|--|---|--|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | | to address specific objectives. | | address specific objectives. September 2006 for plan. | condition project/ <u>In-kind (time) initially.</u> <u>Additional funding needs will be clarified as project develops.</u> | ation from federal and state agencies. FPM Members could work to develop plan. | protocols to be matched with the best fish population monitoring protocols to most accurately answer key questions for regional needs spanning many agencies. |
| Outcome C. Identify regional existing and planned <u>fish population monitoring habitat restoration</u> projects and efforts, including agency specific activities, that are key components of a monitoring network. | Action Item 1. Catalogue <u>Inventory</u> existing fish population monitoring efforts across the region (use new template developed at 080205 WG Lead Workshop). | Conduct inventory of monitoring fish population monitoring efforts across the region. | High | Catalogue <u>In</u> ventory with location, type of monitoring, and contact information for fish population monitoring efforts across the region. September 2006 | OK— <u>funded as overall PNAMP project—</u> <u>Phase I to include manageab</u> le scope of <u>informatio</u> n | On- <u>going efforts of Ecotrust, and others will be used, Keith and Jennifer or their staff could address any gaps</u> | <u>All</u> This eatalogue <u>Inventory</u> could be used by all groups to better identify current monitoring efforts across the region. The eatalogue <u>Inventory</u> could be used by groups as a network to distribute information on recommended monitoring techniques, data standards, and other information. |
| | Action Item 2. Develop regional map with agencies identified geographically that are funding and | Map to accompany Catalogue <u>In</u> ventory | <u>Mediu</u> <u>m</u> | Map to accompany Catalogue <u>In</u> ventory | Included in Catalogue effort. | On- <u>going efforts of</u> | <u>All</u> This eatalogue <u>Inventory</u> could be used by all groups to better |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
|---|---|--|----------------|--|---|--|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | implementing fish population monitoring. Identify common areas of interest where coordination efforts could result in cost efficiencies. Update annually. | | | September 2006 | \$10k may be needed for additional GIS support <u>Inventory</u> | Ecotrust and others will be used, Keith and Jennifer or their staff could address any gaps | identify current monitoring efforts across the region. The catalogue <u>Inventory</u> could be used by groups as a network to distribute information on recommended monitoring techniques, data standards, and other information. |
| | Action Item 3. Develop a regional map with agencies identified geographically that are funding and implementing fish population monitoring. Identify common areas of interest where coordination efforts could result in cost efficiencies. Update annually. | Map to accompany Catalogue | Med | Map to accompany Catalogue September 2006 | Included in Catalogue effort. \$10k may be needed for additional GIS support | On-going efforts of Ecotrust, and others will be used, Keith and Jennifer or their staff could address any gaps | This catalogue could be used by all groups to better identify current monitoring efforts across the region. The catalogue could be used by groups as a network to distribute information on recommended monitoring techniques, data standards, and other information. |
| | Action Item 3. Develop a short list of indicators | Collaborate with High Levels Indicator | High | Part of the deliverable | <u>In-kind (time)</u> \$0k | <u>High Level</u> | <u>All (some indicators will be fish, some</u> |

| PNAMP Objective 3. Coordinate Pacific Northwest Instream Fish Population Monitoring Efforts | | | | | | | |
|---|--|--|----------|---|--|---|---|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | common to all regions that can be integrated to produce summarized reports suitable for describing regional progress to the public and to the highest levels of government. | subcommittee | | for the High Level Indicators Subcommittee | Part of PNAMP High Level Indicators work group | Indicators subcommittee, with WG leads Jennifer and Keith, or other FPM members | watershed condition, some water quality and some project information) A single set of high level indicators for both fish an habitat is critical to the success of conveying monitoring data (for both habitat and fish) to the public and to decision makers. |
| | Action Item 5. Facilitate a discussion towards the creation of a regional network of fish population monitoring activities. Top down bottom up and cross cut. | <u>Participate in the discussion of regional networking.</u> Use <u>CatalogueInventory</u> effort to identify network. Continue outreach efforts to expand FPM membership. | Medium | <u>CatalogueInventory</u> will serve as basis of network. FPM membership will also expand to perform networking function. | \$0k part of the FPM workgroup process In-kind (time) | Keith and Jennifer will address as part of FPM Group Management. Will also be addressed through creation of <u>CatalogueInventory</u> . | <u>All</u> Network will serve as basis for communication and dissemination of information for both fish population and habitat monitoring. |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| Outcome A. Identify the key questions that could be addressed by coordinated project effectiveness monitoring in support of management. Identify the current and proposed metrics, monitoring designs and evaluation methods needed to answer these questions. | <u>Action Item #1. (from Objective 1) Identify information needs and coordinate information sharing so that high level management questions may be answered by agencies in the region by aggregating monitoring and/or effectiveness research results across different spatial and/or temporal scales</u> | <u>Participate in the development of a document to describe “high level management questions” for all PNAMP partners</u> | | | <u>In-kind (time)</u> | <u>Steering Committee</u> | <u>All</u> |
| Outcome B. Identify, develop, and recommend a standardized set of protocols for sampling designs and data collection. | Action Item 1. Encourage monitoring reach scale habitat improvement effectiveness using a paired control/treatment experimental design in which a single type of habitat action is applied to a large number of sites (stream reaches) and compared to nearby, untreated control reaches. | <u>Support development of a regional data dictionary (?)</u> | <u>High</u> | <u>September 2006</u> | <u>In-kind (time)</u> | <u>Roy Beaty BPA and Stewart Toshiach will resolve issues around compatibility of BPA PISCES database with NOAA PCSRF data</u> | <u>Watershed WG: field sampling protocols should be nearly the same in Watershed condition moduleworkgroup</u> |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|--|--|----------|---------------------------|-----------------------|----------------------|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | | | | | | dictionary | |
| | Action Item 2. Encourage funding entities to coordinate their investigations to reduce duplication and costs, and to obtain results in the shortest amount of time. | ? | | September 2006 | | | |
| Outcome C. Identify regional existing and planned habitat restoration projects and efforts, including agency specific activities, that are key components of a monitoring network. | Action Item 1. Inventory existing habitat restoration projects across the region. | Conduct inventory | ? | December 2006 | | WG members | |
| | Action Item 2. Develop and recommend standard reporting metrics for effectiveness monitoring | Resolve the applicability of the Bureau of Reclamation data dictionary and protocol builder as the identified and recommended source for regional attributes and protocols that state, federal, and tribal monitoring programs should use for assessing project effectiveness. | High | May 2006 | In-kind (time) | Lead= Mike Beaty BOR | Watershed WG; may affect the Watershed condition WG module due to similarities of indicators used |
| | Action Item 3. Coordinate regional agreement on standard metrics for project level effectiveness monitoring studies of the PNAMP partners. | NOT AN FY06 TASK | | | | | WG members |
| | Action Item 4. Coordinate regional agreement on standard data reporting and access formats for the metrics developed under Action Item 2. | NOT AN FY06 TASK | | | | WG members | All May affect all other modules depending upon how and where data are stored |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|--|---|----------|---------------------------|-----------------------|--|---|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | Action Item 5. Develop a regional map with agencies identified geographically that are funding and implementing effectiveness monitoring. Identify common areas of interest where coordination efforts could result in cost efficiencies. Update annually. | Map to accompany Inventory | ? | December 2006 | | WG members | All |
| | Action Item 6. Develop a short list of indicators common to all regions that can be integrated to produce summarized reports suitable for describing regional progress to the public and to the highest levels of government. | Collaborate with High Levels Indicator subcommittee | High | July 2006 | In-kind (time) | Steve Waste chairs the subcommittee on High Level Indicators subcommittee, with WG leads | All (Some indicators will be fish, some watershed condition, some water quality and some project information) |
| | Action Item 7. Facilitate a discussion towards the creation of a regional network of effectiveness monitoring activities. | Use Inventory effort to identify network. Continue outreach efforts to expand FPM membership. | High | December 2006 | In-kind (time) | WG members | December 2006 |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|--|---|----------|---|-----------------------|--|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| Outcome D (formerly E). Develop a recommended network of Intensively Monitored Watersheds (IMW) and reach specific studies for effectiveness monitoring. Implement and refine the 2005 PNAMP IMW Strategy | Action Item 1. Recommend a strategy for placing IMWs throughout the Pacific Northwest to monitor and evaluate “cause and effect” relationships between habitat restoration and management actions, and changes in fish population responses and other viable salmonids population criteria. | Complete Phase 1 of IMW strategy: 1. stratify/classify PNAMP area 2. review placement of initial IMWs in context of criteria and classification 3. identify preliminary limits to extrapolation of results based on initial opportunities 4. assess and review policy implications of Phase 1 IMW network with Executives. <u>5. review IMW data management issues and needs and draft a data management component for the IMW strategy</u> | High | Implementation progress report. This will include IMW presentations to Executive Network (OWEB, CDFG, NPCC, federal IAC, WA Monitoring Forum, and others). May 2006 or as per communications plan | <u>In-kind (time)</u> | Members; IMW workgroup, report in coordination with Steering Committee communications plan | Some products from phase 1 (classification) will inform effectiveness, fish, and watershed monitoring workgroup efforts. Various products from other work groups will inform IMW work. Coordinate data management needs assessment and plan with data workgroup. |
| | Action Item 2. Begin Phase 2 (note; work in phase 2 will extend beyond FY 06 into FY07) Review/refine initial IMW selection criteria as needed, including changes in policy context, possible refinement of policy-relevant statistical and other criteria (e.g., number of IMWs per target strata; meta-design and analyses; data management, timeframes) | <u>NOT AN FY06 TASK</u> | High | Implementation progress report June 2006 Major Phase 2 report (revised IMW strategy) targeted for July 2007 | None | Members; IMW workgroup, report in coordination with Steering Committee communication | Same as for Action Item 1. |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|--|------------|----------|---------------------------------|------------------------------|---------------------------|----------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | 1. identify gaps in coverage consistent with refined criteria 2. identify and prioritize candidates to address gaps a. perform scoping or feasibility analyses, etc as needed 3. identify IMW priority candidates 4. identify work needs for subsequent phases assess and review policy implications of Phase 2 IMW work with Executives | | | | | s plan | |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|--|---|----------------------|---------------------------------|------------------------------------|--------------------------------|----------------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | <p>Action Item 3. Phase 1 and beyond: (support ongoing implementation and integration of IMW strategy and products):</p> <ul style="list-style-type: none"> • support development and refinement of experimental designs for individual IMW efforts • support development of broader cross-network design guidance and implementation • support data management issue resolution for individual IMWs and across the IMW network • as appropriate identify/expand collaborators and partners • identify funding needs and assist development of funding strategies | <p><u>Support ongoing implementation and integration of IMW strategy and products</u></p> | <p>Medium</p> | | <p>All IMW partners</p> | <p><u>All IMW partners</u></p> | <p>Same as for Action Item 1</p> |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | Action Item 4. To reduce the risk of not being able to detect a change resulting from habitat projects, PNAMP will encourage federal and state governments that select and fund habitat restoration projects to cluster them in the identified IMWs so that the amount of habitat improved can be at a scale measurable in terms of migrant salmonids produced. | Outreach to PNAMP Executive Network | Medium | PNAMP letter to Executives; include recommendation in PNAMP annual reports | None in-kind (time) | Steering Committee, with assistance from IMW subgroup and EM workgroup | |

| PNAMP Objective 4 Coordinate Pacific Northwest Effectiveness Monitoring Efforts | | | | | | | |
|---|---|-------------------|----------|---|------------------------------|--|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | Action Item 5. Host a first IMW review workshop (separately, or as part of larger PNAMP communications plan efforts) to (1) promote and summarize progress, (2) identify key results to date, and (3) identify and address coordination issues within the PNAMP IMW network and linkages to other PNAMP activities (cross-cut to project effectiveness monitoring, status and trend monitoring, etc). This may include coordination with those performing focused studies in watersheds outside the IMW network within the PNAMP area. | Host IMW workshop | Medium | Per PNAMP Communications Plan Possible February 2006 linkage with Oregon monitoring workshop | <u>Potential room rental</u> | IMW workgroup, EM workgroup and Steering Committee | Cross-cut to project effectiveness monitoring, status and trend monitoring, etc. |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|---|---|----------|---|--|---|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| Outcome A. Develop a consistent data management methodology within and across each of the PNAMP Workgroups. Provide leadership and coordination between the various workgroups. Establish similar approaches to information management across the various PNAMP workgroups to ensure consistency. | Action Item #1 Recommend a common data management methodology for use within and across each PNAMP workgroup. | <u>COMPLETE 2005</u> | | Complete: See B below (see Appendix A below) | | | |
| | Action Item #2 Develop a detailed PNAMP Data Management Coordination Plan that follows the methodology and sets out a time frame for deliverables. | <u>Data management coordination plan (this table)</u> | | | This table (needs a few issues to be resolved) | No cost to PNAMP, Task currently supported by NED, StreamNet and Wa State IAC | <u>WG leads</u> |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|--|---|--------------------|--|------------------------------|------------------------------|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| <p>Outcome B. Establish a close working relationship for data consistency across the Workgroups. Consistent communication of information management approaches across all PNAMP Workgroups.</p> | <p>Action Item #1 Develop and share materials, plans and solutions across the work groups and develop common solutions to common data problems.</p> | <p>Continue efforts to establish consistent information management approached for PNAMP workgroups; <u>convene Data Management focused meetings for WG leads minimum every 6 months</u></p> | <p><u>High</u></p> | <p>This is a cross cutting issue and some progress has been made, however lack of attendance by work group leads and a decision by the Steering committee not to proceed with a needs assessment has limited opportunities. So workgroup leads need either: to attend SC meetings or an alternative is needed cross cutting approach is needed. Suggest that work group meetings (some of which can be data meetings) every 6</p> | <p>Not known</p> | <p>SC to reach consensus</p> | <p><u>All</u></p> |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|---|------------|----------|--|--------------------------------|---------------------------|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | | | | months in lieu of regular meetings. | | | |
| Outcome C. Identify and document the specific data needs of the for PNAMP and for Watershed Condition Monitoring, Fish Population Monitoring, and Effectiveness Monitoring Workgroups, and other technical workgroups as they are formed. | Action Item #1 Assist each technical workgroup to assess and identify their business information needs in order to support each work group's requirements. | | | <u>A formal needs assessment is not being completed. Needs will be identified on a case by case basis. See for example, alternative action below.</u> See alternative action below. | See alternative action below | | <u>All</u> |
| | Action Item #2 Document the metrics, sampling designs, and data collection protocols that will be used. | | | <u>Could be completed as a part of a needs assessment. But if a needs assessment is not planned then PNAMP needs to make other arrangements do document what it needs.</u> Not a data management task. | Not a data mgt task | | <u>All</u> |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|---|--|----------|---|--|---|--|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| | | | | Documentation cannot be completed until these metrics designs and protocols have been identified. Responsibility needs to be with individual work groups. | | | |
| | Action Item #3 Assess needs and gather user requirements and preferences of workgroups. | | | Partial assessment can be made when alternative action Step one below is complete...but this will all be iterative | Future cost | | All |
| | <u>PROPOSED ALTERNATIVE TO ACTION ITEMS 1-3 ABOVE:</u> <u>Alternative: (see Appendix B below)</u> <u>Step One: complete an inventory assessment of monitoring projects: who is doing monitoring work, where they are doing it and what the monitoring is.</u> | Alternative: (see Appendix B below) Step One: complete an inventory assessment of monitoring projects: who is doing monitoring work, where they are doing it and | | The WG leads Co-leads will have volunteered to provide technical oversight for Step One and have prepared a draft Statement of work. | The cost for completing the alternative data management inventory task— Step One, is | WG leads to provide technical oversight. PNAMP coordinator to provide administrative oversight. PNAMP | All Co-leads to provide technical oversight. PNAMP coordinator to provide administrative oversight. PNAMP-SC to facilitate funding |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | <p><u>Follow on steps could be:</u> <u>Step two: Detailed identification of data that must be shared in the projects identified in the inventory need to share that they cannot already share.</u></p> <p><u>Step Three: Develop a plan for sharing data identified in Step Two above using existing programs.</u></p> | <p>what the monitoring is. Follow on steps could be: <u>Step two: Detailed identification of data in the projects identified in the inventory need to share that they cannot already share.</u></p> <p>Step Three: <u>Develop a plan for sharing data identified in Step Two above using existing programs.</u></p> | | Attached as <u>Appendix ?Section C</u> below. | estimated to be \$ _____ _____ <u>TBD</u> | <u>SC to facilitate funding.</u> | |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resources Needed | Lead entity/person | Cross cut for other WGs |
| <p>Outcome D. Develop and recommend data collection standards and information to be shared across the various monitoring programs. Validate that data standards are consistent and compliant to the maximum extent possible with any state, regional or national requirements for data collection and management.</p> <p>Document all agreed upon standards and procedures.</p> <p><u>NOTE from Stewart Toshach: APART FROM DATA MANAGEMENT AND DATA SHARING TOPICS MOST OF THIS OUTCOME IS NOT A DATA MANAGEMENT OUTCOME.</u></p> | <p>Action Item #1 Leverage existing data collection/reporting standards by engaging in collaborative activities with other data standardization efforts, for example, FGDC, the State Federal Framework effort, the OR/WA Hydrology clearinghouses, Federal PNW Information Coordinating Council (previously IRRIC), NED, and possibly others.</p> | Continue collaboration with other data standardization efforts | | NED is developing a set of draft minimum spatial/temporal definitions for location of projects and sites. It will circulate these definitions to PNAMP for comment. Other standards are anticipated | <u>In-kind (time)</u> No cost to PNAMP | <u>WG Co-Leads</u> | <u>All</u> |
| | <p>Action Item #2 Interact with NED, IRICC and other regional data entities to ensure that PNAMP monitoring data collection and management complies to the maximum extent possible, with National, State or regional data collection and management standards.</p> | Continue collaboration with other data entities | | Cross coordination work is continuing with Co Leads involved in PNAMP, PNW-RGIC, NSGIC and various state activities (Forum, OWEB, etc) | <u>In-kind (time)</u> No cost to PNAMP | <u>WG Co-leads</u> | <u>All</u> |
| | <p>Action Item #3. Review</p> | Continue | | OR & WA | <u>In-kind</u> | <u>WG leads</u> | <u>All</u> Co-leads |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|--|---|----------|---|---|---------------------------|-----------------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | data issues, such as: Link data collected at the sampling reach with PNW Hydro Clearinghouse data or the best available hydrography layer. | collaboration with regional activities | | Framework groups are working with PNW Clearinghouse to migrate & crosswalk unique identifiers for LLID's with NDH. Oregon hydro data will be completed by Oct. 2005 and WA data will be completed by Feb. 2006. | (time) cost to PNAMP | | |
| | Identify a list of needed GIS layers needed by region, sub-basins, and ESU's, and ensure that GIS data has FGDC compliant metadata The PNAMP watershed group has identified the need for preparation of base spatial data sets The watershed group should finalize this list and forward it to PNW-RGIC | Continue collaboration with regional activities | | The PNW-RGIC is compiling a list of regional Framework GIS layers for development and funding. This list will be built from the FGDC list of 8 layers. | <u>In-kind (time)</u> | <u>WG leads</u> | All <u>Co-leads</u> |
| | Develop needs regarding monitoring data, including; storage of raw data, data | PNAMP is not planning to develop data | | | <u>In-kind (time)</u> | | <u>All</u> |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
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| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | sharing standards and metrics, and access and work with NED, to identify networking solutions. | <u>management capability, but may have input into what is needed from other regional efforts</u> | | | | | |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|--|-------------------------|----------------|---------------------------------|------------------------------|---------------------------|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| Outcome E. Share PNAMP requirements and results with regional data networking entities to ensure sharing of monitoring data. Promote a systematic approach to meeting regional data needs through more consistent use of database designs, data protocols, data dictionaries, and data sharing, among PNW participants. | Action Item # 1. Interact with and support existing data coordination efforts, for example the Northwest Environmental Data Network (NED) and the Federal PNW Information Coordinating Council (previously IRICC) and others. | <u>Ongoing</u> | | | <u>In-kind (time)</u> | | <u>All</u> |
| Outcome F. Test the collection protocols, sampling methods and data sharing mechanisms. Develop and use verification and testing procedures of PNAMP standards to validate that they work. | Action Item #1. Support the use of the FCRPS pilot efforts in the John Day, Upper Columbia and Salmon Rivers and in the Columbia Estuary and the State Intensively Monitored Watershed efforts to test PNAMP solutions. | <u>NOT AN FY06 TASK</u> | | | | | <u>All</u> |
| Outcome G Implement coordinated solutions within PNAMP members programs. Recommend and work to include final workgroup | Action Item #1. Interact with regional data programs to provide outreach, education and training to support the use of PNAMP data protocols and standards. | | <u>ongoing</u> | | | | <u>All</u> |

| PNAMP Objective 5 Coordinate Pacific Northwest Data Management Efforts | | | | | | | |
|--|---|------------|----------------|---------------------------------|------------------------------|---------------------------|-------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| standards into each PNAMP partner organization's information management business operations. | Action Item #2 Advocate that PNAMP monitoring data is collected and shared using PNAMP data protocols and standards. | | <u>ongoing</u> | | | | <u>All</u> |
| | Action Item #3. Maintain, test, update and correct data collection standards as needed throughout the life of the PNAMP coordination effort. | | <u>ongoing</u> | | | | <u>All</u> |

| PNAMP Objective 6. Coordinate Estuary Monitoring Efforts | | | | | | | |
|---|--|---|-------------|---|--|--|----------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| Outcome A. Identify regional estuary monitoring efforts including agency specific activities that are key components of a monitoring network. | Action Item #1. Create an internal organizing framework that identifies manner in which (e.g., database) to organize/categorize monitoring efforts | Outreach to identify additional participants | High | Complied list of responses to bulleted needs 8/16/05 | Will track | Puget Sound – Bos;Brace WA coast – Sobocinski; Leary Columbia River – Johnson; Leary OR Coast – Tortorici CA – Wallace;Cannata | <u>All</u> |
| | Action Item #2. Create an interactive website of ongoing/upcoming projects for estuarine monitoring | <u>Participate in PNAMP Inventory project</u> | <u>High</u> | | | | |
| | Action Item #3. Compile & organize existing information & data regarding existing and proposed monitoring programs | <u>Participate in PNAMP Inventory project</u> | <u>High</u> | | | | |
| Outcome B. Identify the key questions that could be addressed w/coordinated PNW estuary | <u>Action Item #1. (from Objective 1) Identify information needs and coordinate information sharing so that high level management questions may</u> | <u>Participate in the development of a document to describe “high level management questions” for all</u> | High | Starter list of questions 8/18/05 | <u>In-kind (time)</u> Will track | <u>Steering Committee, e. with WG leads,</u> McEwen | |

| PNAMP Objective 6. Coordinate Estuary Monitoring Efforts | | | | | | | |
|---|--|---|----------|---------------------------------|------------------------------|---------------------------|----------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| monitoring. | <u>be answered by agencies in the region by aggregating monitoring and/or effectiveness research results across different spatial and/or temporal scales</u> Action Item #1. Generate management questions through a survey of PNAMP partners | <u>PNAMP Participate in PNAMP Inventory project</u> | | | | | |
| | Action Item #2. Integrate responses to management questions into a “white paper” to be distributed back to survey respondents and PNAMP Steering Committee to support changes, as appropriate, regarding how estuarine data/information is monitored and used | <u>? FY06 task</u> | | | | | |
| Outcome C. Develop means to manage & share info (the shared protocols & reasons for mgmt decisions: background info, results, tools, etc.). | Action Item #1. Develop a website (e.g., clearinghouse) to manage & share info | <u>? FY06 task</u> | | | | | |
| | Action Item #2. Link to database being developed in Outcome A. | <u>? FY06 task</u> | | | | | |

| PNAMP Objective 6. Coordinate Estuary Monitoring Efforts | | | | | | | |
|--|--|---|-----------------------------|---------------------------------|------------------------------|---------------------------|----------------------------|
| Outcome (from Strategy) | Action Item (from Strategy) | FY06 Tasks | Priority | Product & Completion date | FY06 Resource s Needed | Lead entity/ person | Cross cut for other WGs |
| | Action Item #3. Coordinate with PNAMP data management technical group through the Northwest Environmental Data Network and the PNAMP Steering Committee. | Coordinate with PNAMP Data Management Workgroup | On-going High | <u>Ongoing</u> | <u>In-kind (time)</u> | | <u>All</u> |
| Outcome D. Identify, develop, and recommend an established set of metrics and compatible protocols for sampling designs & data collection. | Action Item #1. Compare existing protocols throughout Pacific states estuaries | <u>NOT AN FY06 TASK</u> | | | | | |
| | Action Item #2. Compile sampling designs in order to decide applicability. | <u>NOT AN FY06 TASK</u> | | | | | |
| | Action Item #3. Identify which groups are using this protocol/sampling design/metrics, in order to compare data. | <u>NOT AN FY06 TASK</u> | | | | | |

Appendix A) PNAMP Summary Data Management Methodology

To achieve the PNAMP goals a consistent summary data management methodology¹ that breaks the data management tasks into distinct steps will be used by PNAMP:

1.0 Develop a clear statement of what the PNAMP Data Work group is intended to do and who is going to do it. This statement would be based on the work plans of the work groups.

2.0 Assess needs and gather user requirements and preferences. Understand the necessary data products, how the data products would be used, the people who are involved, and when products are needed.

3.0 Develop a detailed PNAMP Data Management Coordination Project Plan. Set out the time frame for deliverables: who will do what and when and cost/cost share.

4.0 Analyze the needed data management requirements. The requirements need to be described in data management terms.

5.0 Design, develop and test solutions—make fixes

6.0 Transition from existing processes and complete training.

7.0 Deploy, test and signoff

8.0 Maintain as needed

9.0 Independent validation and verification of solutions

10.0 Return to #1.0 above. Iteratively assess user needs and requirements and provide the best Information Management support possible.

¹ For example. Barker, R and Clegg, D. 1994. Case Fast Track A RAD Approach. Oracle Press. Addison Wesley.

APPENDIX B) PNAMP PROJECT INVENTORY TASK and STATEMENT OF WORK

The PNAMP work groups have identified the need to complete a broad scale yet detailed inventory of monitoring projects in the region. While the details of each of the inventories differ in some respects a good argument can be made to support completion of a single inventory for all the groups.

The PNAMP Data Management group, with support from the PNAMP Coordinator hosted a meeting of the PNAMP work groups on August 2nd 2005 to identify their needs for the PNAMP Project Inventory task. Notes, summary material and a list of needed data elements from that meeting are as follows:

PNAMP INVENTORY STUDY MEETING NOTES, August 2nd 2005:

Agenda Item 1: Introductory statements were requested from each PNAMP workgroup (WG), including:

- 1) What is the focus of your workgroup?
- 2) What are you presently working on?
- 3) Have you identified an inventory task in your work plan?
- 4) Are you addressing or handling data management types of activities within your project work?
- 5) While the questions were answered by the WG leads, Stewart, Joy and Bruce tried to identify data management (DM) needs and issues.

Watershed Monitoring WG

1. Current focus:
 - Protocol standardization for status and trends (in channel attributes)
2. Presently working on:
 - a) Protocol standardization for status and trends
 - Goal to recommend protocols ->> PNAMP
 - Focus on in-channel protocols
 - Analyses techniques (for protocols): Note: Finish field sampling end of August. Meeting for Analysis in September
 - b) Master sample design: Phil Larsen, EPA, is lead
 - Goal to allow all to tier to probabilistic sampling design;
 - c) Develop and use common GIS layers (to be done by other groups)
3. Inventory needs: "Inventoried" protocols by different agencies – tables complete, but not updated lately.
4. Specific ongoing DM activities: Recently initiated conversation with Brett Roper about data management needs for protocol comparison test.
5. DM comments:
 - Data needs practices mostly not documented and are informal.
 - Need support in GIS...Remote Sensing – what layers needed?
 - Need support in how to share data

Estuary Monitoring WG

1. Current focus:
 - Coordinate monitoring → regional scale
 - Large scale monitoring projects
2. Presently working on:
 - formation of new WG
 - identifying tasks for FY06 Workplan, including:
 - a) Inventory proposed/existing programs (currently active)
 - List programs. Who is doing what?
 - Get data
 - b) Identify management questions
 - Survey partners → produce white paper

- c) Coordinate w/PNAMP data management group
 - What will happen to the data . Decide up front!
 - Survey is designed – paper form → spreadsheet
 - Tasks divided by regions (5): Columbia River, Puget Sound, WA Coast, OR Coast, Northern CA
- 3. Inventory needs: yes, see above
- 4. Specific ongoing DM activities: yes, see above
- 5. DM comments:
 - Start small → Modular → Iterative
 - Data Management mostly informal. Wants support.
 - Tools to add data? How do you organize this info?

Fish Population Monitoring WG

1. Current focus: as in Workplan
2. Presently working on:
 - a) Survey of fish counting/capture protocols. Johnson/O’Neal; goal is recommendations; draft due this fall
 - b) Work with CSMEP developing monitoring design templates.
 - c) Identify key questions fro fish population monitoring
 - Technical
 - Management questions
3. Inventory needs: Yes (see draft “Inventory Questionnaire” list)
 - Wants activity inventory: What, where, who, why
 - Waiting for outcome of decision on: one PNAMP-wide effort or separate WG efforts
4. Specific ongoing DM activities: yes, related to CSMEP work
5. DM comments:

Effectiveness Monitoring WG

1. Current focus: as in Workplan
2. Presently working on:
 - a) IMW’s: Protocols (specific) as in WA Strategy. (fish in, fish out, H2o quality, quantity)
 - b) Restoration projects tracking database; goal to adopt common metrics
 - WA State overview of all habitat projects
 - c) Protocol Builder-adopt as protocol database? Possible tool to link Watershed and effectiveness, fish monitoring work?
 - d) High Level Indicators: goal to coordinate, standardize?
 - 4-5 can be reported in WA currently: Fish Abundance, Habitat Quality, Water Quantity/Quality, Barriers??; how to link to regional scale?
 - e) Effectiveness of Projects
 - Regional scale
 - Testing of restoration actions, projects—looking at extant projects
 - Inventory of existing projects
 - Data Integration

Agenda Item 2:

Summary of Data Needs Across WGs

- Protocol standards – Watershed, Estuary, Effectiveness
- Master Sample design – Watershed, Fish
- Common GIS layers Watershed, Estuary
 - Inventory – (Joy will provide lists of common GIS layers)
- Inventory of monitoring programs/projects - Watershed, Estuary, Fish
 - Inventory of habitat restoration projects - Effectiveness
- Key management questions/High level indicators – Estuary, Fish, Effectiveness
- Tool to add to Inventory – Estuary, Fish
- Key technical questions (VSP+) - Fish
- Inventory of restoration projects – Effectiveness
 - Use (or link to) Steve Katz restoration project inventory?

Agenda Item 3. Key points on Data Management —Bruce Schmidt (handout) DM need to be collaborative, integrated

Agenda Item 4. PNAMP Data Management Methodology – Stewart (handout) process as adopted by the PNAMP SC for DM methods

Agenda Item 5. Inventory Discussion

Draft Inventory List

See attached file (inventory draft v1 JMB aug 8 05.doc)

Agenda Item 4. Developing a PNAMP work group data management check list. Draft data management questions that program managers will need to understand and build into PNAMP efforts. Short discussion— Stewart has drafted a list to assist the Watershed WG with the protocol comparison project. Stewart will work with Steve Lanigan & Brett Roper to develop for this project; will be a case study for eventual template for use by all PNAMP projects.

Parking Lot (ideas mentioned, but set aside for the moment)

- What about the Data – site/detail
- What questions can be answered
- Method – Census, Sample
- How was site decided
- Available in GIS
- Add Definitions
- Diagram of Links

NEEDED DATA ELEMENTS – FROM AUGUST 2nd Meeting

The work groups agreed that the following data elements are needed to be collected as a part of the project inventory task.

GENERAL PROJECT INFO

Project Goal/Management Questions

What is the Regulatory requirement for the monitoring?

Who is the customer for customer for the monitoring?

Who uses the monitoring?

FUNDING

Annual cost

Funding source

Direct or indirect funding?

Is funding specifically directed to a monitoring goal or is it a general program goal?

Hard or soft funding?

Is funding budget line authority in agency or due to a reimbursable contract from outside agency for this task?

STUDY DESIGN

Project Location

Spatial Scale

Universe of inference (scope)

Type of monitoring (effectiveness, status/trend, etc)

Sampling design (probabilistic or best judgment)

Focal species

Other species impacted

Indicators used

Anticipated duration

Number of sampling sites

Is complete site location information available?

 If so, where?

Sampling frequency

Start date

End date

Protocol(s) used

Attributes measured

Accuracy/bias of protocol

DATA RESOURCE

Data Location (where stored)

Data contact person

 Name

 Phone

 Email address

Data format (spreadsheet, database, paper, etc)

Data quality/assurance rating (eg 0-18 scale used by ??)

Data update schedule

Are data sensitive or proprietary?

Are data available as raw data or derived data?

Are data available at no cost?

Are data available on maps or a GIS layer?

PARTNERS

Participants in monitoring activity (other agencies, etc.)

Participant Contact info (for each partner)

 Name

 Phone

 Email address

What other groups use this data?

Notes: Allow for comments to be added to the inventory answers

STATEMENT OF WORK:

TO COMPLETE A DETAILED INVENTORY OF MONITORING PROJECTS IN THE PACIFIC NORTHWEST FOR THE WATERSHED CONDITION MONITORING, FISH POPULATION MONITORING, ESTUARINE MONITORING AND EFFECTIVENESS MONITORING WORK GROUPS.

1.0 Background and Goal.

The PNAMP Watershed Monitoring, Fish Population Estuarine and Effectiveness Monitoring work groups have all identified the need to complete or update inventories of regional monitoring projects.

A joint meeting of these groups and the data management work group was held on August 2nd 2005. The purpose of this meeting was to identify the work groups inventory tasks, to summarize common the inventory tasks across the groups and to develop a common list of data elements that would need to be collected to satisfy all groups. These notes and lists are attached.

PNAMP has a data management goal is to assist scientists on the identification and development of data standards as it relates to fish and aquatic habitat data. This includes identifying the subject area data needs and assessing a uniform approach to representing that information so that the data can be shared.

Identifying all the groups that are completing monitoring projects and recording details of those monitoring activities are important steps for PNAMP to begin to meet it's data management goals.

2.0 Data Research

2.1 Overall Tasks. The coordination, completion and quality checking of a PNAMP Monitoring Project Inventory. This will involve making contact via e-mail, regular mail and phone calls to multiple organizations, agencies, entities and in many cases, directly with individuals, with knowledge of monitoring efforts in the region. The researcher will maintain a complete electronic record of the findings of the inventory effort and will diligently follow up on contacts to ensure that the information is gathered. In some cases this may mean that the data researcher will actually complete the inventory for participants. In other cases it will mean validating and completing quality control checks on the data.

The data analyst will meet periodically as detailed below, during the course of the inventory task with work group leads to report directly on progress with this inventory and to report on any difficulties that the researcher is experiencing.

2.2 Specific Tasks.

- Meet with the client group (Leads and or Co-leads of PNAMP Work Groups).
- Develop a detailed work plan based on this Statement of Work and further consultation with the client group. The work plan will set out milestones and deliverables for completion of the inventory survey task and consultation with the client group.
- Develop a contact list of entities, organizations and individuals that must be contacted. Existing lists of potential contacts will be provided to the Researcher by the client group, however it is expected that the researcher will, as a part of the effort, compile any lists into a master list and make all known corrections.
- Establish a paper and an electronic field survey form and a means of compiling the data into a single database.

- Complete the inventory survey, compile the results and provide the surveys and results to the client group in draft and final forms according to the specifications detailed below.
- Complete quality assurance and quality control on the inventory.
- Document the method that was used to complete the inventory.
- Complete FGDC compliant metadata for this inventory product
- Meet with the client team, as necessary at the discretion of the PNAMP project Coordinator.

3.0 Skills, Services, Documentation and Point of Contact.

3.1 Needed skills. It is essential for the data researcher to have at least 5 years in planning for, developing, facilitating, completing and documenting inventories using established survey methodology. Related information system skills and experience is desirable, for example, in collecting and reporting survey results using electronic media. At minimum the researcher shall have experience using secured Microsoft Excel to complete surveys and Microsoft Access to compile the Excel surveys into a database product. While experience with Microsoft Excel and Microsoft Access is the minimum requirement, other options for completion of the inventory survey and integration of the survey results will also be considered by the client, depending on the costs, benefits and the experience of the service provider.

3.2 Services. Required (See sections 2.1 and 2.2 above).

3.3 Documentation Required. The data analyst will provide the following: A detailed project plan, monthly status reports, draft and final inventory forms and draft and final inventory products. The final inventory data will be provided in a MS Access database version _____ or better.

3.4 Point of Contact. The PNAMP Coordinator _____ is the point of contact for all content related issues.

4.0 Deliverables.

4.1 Brief progress reports every four weeks on tasks undertaken, percentage of tasks completed, and any issues affecting completion, priorities or progress in achieving project milestones.

4.2 Final products include: a written and electronic report summarizing the inventory; electronic copies of the individual survey reports; and an electronic copy of the final database product in a format acceptable to the PNAMP Project Coordinator.

5.0 Performance.

5.1 Place of Performance. Services are to be on-site at the _____ location. Any adjustments to the location or schedule of performance are at the discretion of the _____ project point of contact.

5.2 Period of Performance. Product deliverables are defined above.

5.3 Schedule of Performance. Services are to be provided during the normal business between 7:00 AM and 4:00 PM Monday thru Friday excluding agreed legal federal holidays.

5.4 Materials and Equipment. The _____ (insert agency) will provide the services, equipment, materials, and travel, to complete this work **(OR NOT AS THE CASE MAY BE)**.

6.0 Privacy.

6.1 Privacy, Security & Confidentiality of subjects and materials: Privacy Act Work on this contact may require personnel to have access to Privacy information. Personnel shall adhere to the Privacy Act, Title 5 of the U.S. Code, Section 552a and applicable agency rules and regulations.

7.0 Cost.

It is estimated that this effort can be completed over a one-year period at a cost of:

| | | | | |
|--|-------------------------------------|---------|----|-------------------|
| | Data Researcher Salary and Benefits | ??????? | \$ | 1 FTE @ Fed GS 12 |
|--|-------------------------------------|---------|----|-------------------|

