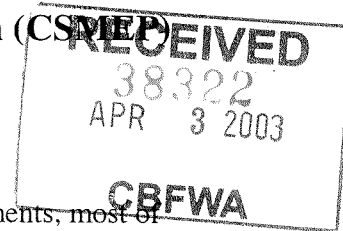


Moving Towards a Work Plan for Project 35033: Collaborative, Systemwide Monitoring and Evaluation Program (CSMEP)



1. Background to this Memo

The CBFWA collaborative M & E program (project 35033) is described in several documents, most of which can be viewed on the CBFWA website (hyperlinks provided below):

- 1) the original proposal submitted to the ISRP, and associated presentation;
- 2) the positive initial ISRP review of CSMEP, (Aug. 2 2002), which recommended integrating various other projects with CSMEP;
- 3) the follow-up response by CBFWA to ISRP comments;
- 4) the very positive final ISRP review of CSMEP (Nov. 5, 2002);
- 5) a draft Work Plan for 2003, distributed on Dec. 5, 2002.

The above documents were developed in the order listed, and represent a gradual elaboration of the program, with a greater emphasis on moving beyond the design of M & E to actual implementation on the ground, and subsequent evaluation of monitoring results, as described below. This elaboration of the program has occurred in response to comments from the ISRP, NMFS, USFWS, and BPA, as well as further scrutiny by other member CBFWA agencies. However, the original thrust and focus of the program remains consistent with the original proposal.

A chronology of the proposal is provided in Appendix A. At a recent meeting held on March 14th it was agreed that there are various activities required at policy, programmatic and technical levels (described in the Action Notes from that meeting in Appendix B). On March 14th it was recommended that the CBFWA RME Workgroup and Nicole Ricci work to develop a side by side comparison of the 5 NMFS proposals, the CBFWA Collaborative Proposal and the Federal RME Plan, for each of the activities outlined on March 14th. This comparison was jointly completed by Chris Jordan and Chris Toole of NMFS, and David Marmorek of ESSA Technologies Ltd., and is contained in Appendix C. A draft of this table was reviewed at a meeting held on March 28th, which is summarized at the end of Appendix B.

The focus of this memo is on the technical tasks proposed under CSMEP and the programmatic input required for those tasks to be accomplished. It attempts to summarize these tasks in light of the questions arising at recent meetings rather than repeat material provided in the above documents. There are a number of questions which need to be addressed at policy and programmatic level that are beyond the scope of this memo:

- What agencies need to participate? (Possible response: those with either decision making or M&E responsibilities)
- What incentive is there for policy and program level personnel to participate in M&E?
- How will programmatic and policy entities be funded?
- What existing entities could be considered for these functions?
- If no single existing entity provides the necessary functions, what mechanisms could be put in place to allow true collaboration among a variety of groups which have partially overlapping responsibilities?

CSMEP was structured to provide a collaborative integration of M&E activities across the Basin, in response to both the NMFS and USFWS Biological Opinions, as well as the NWPCC Fish and Wildlife Program. CSMEP was also structured to ensure no duplication of effort with existing tasks, by carefully developing and implementing work plans that fill the gaps in existing activities. A significant challenge in specifying work tasks for 2003 and beyond is the fact that other M&E activities are constantly evolving.

For example 4 out of 5 proposed NMFS pilot projects did not received ISRP approval (ISRP 2003). If those projects had been approved it would have altered the CSMEP work plan. This challenge however also represents an opportunity. The ISRP's continuing strong support for CSMEP (ISRP 2002-13; ISRP 2002-14; ISRP 2003-6) means that there is *perhaps* an opportunity to get funding support for some of the tasks within the NMFS pilot projects if they are recast within CSMEP's collaborative framework. This is particularly important to the Action Agencies given the September 2003 check-in.

2. Vision & Overview of Major Tasks and Products

The vision of CSMEP is a co-ordinated effort to collaboratively improve the quality of fish population and habitat monitoring and evaluation methods, leading to more informed decisions about fish and habitat management in the Columbia Basin. CSMEP grew out of the monitoring guidance provided by NMFS and others in February 2002 (Jordan et al. 2002). This effort will involve a much greater level of co-ordination than has existed historically: it would involve interaction with all major entities in the Columbia Basin involved in M/E and/or major decision making on fish and wildlife populations.

CSMEP proposes 6 overall tasks, conducted in a collaborative and iterative manner.

1. inventory of existing data relevant to Tier 1, 2 and 3 questions;
2. organization of good quality existing data into accessible form;
3. detailed evaluation of the ability to answer key questions with existing data
4. monitoring program design implement pilot projects or large scale monitoring;
5. implement pilot projects or large scale monitoring;
6. evaluate results to assess new ability to answer questions, revise monitoring programs, answer key questions and make decisions

These tasks, and the products they would generate, are summarized in Table 2.1.

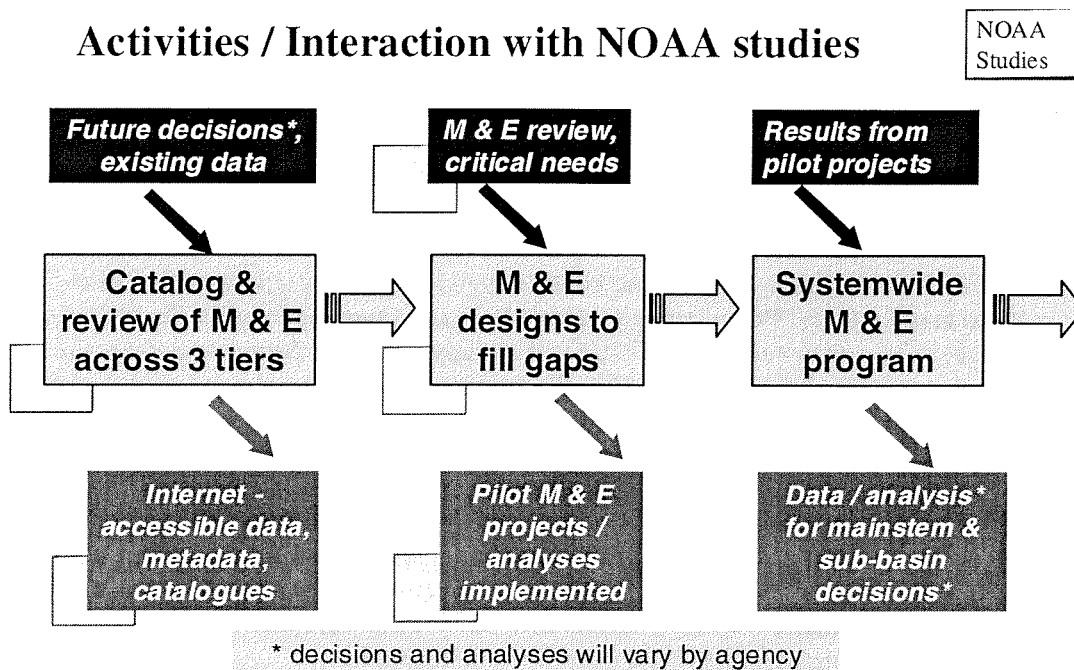
The logical connection between these tasks is shown in diagrammatic form in Figure 2.1, and in tabular form in Table 2.2. Both Figure 2.1 and especially Table 2.2 emphasise the necessary interaction between programmatic and technical level activities.

A possible project organization chart is presented in Figure 2.2. Note that in Figure 2.2 the programmatic level (shown in light purple) could be carried out by entities other than the Core Group and Oversight Committee described in the CBFWA proposal.

Task	Subtasks	Work Product
1. inventory data relevant to Tier 1, 2 and 3 questions	2.1 Tier 1 3.1 Tier 2 4.1 Tier 3	Catalogues of data and metadata relevant to Tier 1-3 questions, building on existing catalogues and data warehouses. Three catalogues (one for each tier) would be compiled initially in written form, but potentially converted into Internet-accessible data modules. They will be developed concurrently, since the kinds of data in the three tiers are quite different.
2. organize good data into accessible form	2.2 Tier 1 3.2 Tier 2 4.2 Tier 3	Internet accessible modules for key data sets. The preferred forms for relational databases would depend on the evolving structure of the NWPPC Information Evaluation and Planning Project. One possibility is to build on the databases already available through existing data warehouses (e.g., Fish Passage Center, Streamnet), and merely provide pointers to this information in the catalogues.
3. evaluate ability to answer key questions	2.3 Tier 1 3.3 Tier 2 4.3 Tier 3	Tier 1 Pilot Analysis , assessing the limitations of existing data for answering Tier 1 questions, the relative benefits of different types of improvements in these data, and recommendations. Tier 2 Data Analysis Report , including assessing the features of existing data sets which have the greatest effect on the strength of inferences, the potential benefits of different types of data improvements and overall recommendations. Tier 3 Data Analysis Plan , outlining what hypotheses are to be tested, what data sets are to be used, and what data analysis methods are to be applied.
4. design improved monitoring programs	2.4 Tier 1 3.4 Tier 2 4.4 Tier 3	Tier 1, 2 and 3 Design Documents , developed in an integrated, cohesive manner to ensure experimental designs and monitoring protocols that cost effectively integrate across tiers, spatial hierarchy levels and life cycles.
5. implement pilot projects or large scale monitoring	2.5 Tier 1 3.5 Tier 2 4.5 Tier 3 ¹	Pilot and larger scale Monitoring Programs implemented on the ground (dependent on funding; collaborate with NOAA on their pilot projects, and also ESSA Innovative pilot project) Data Bases Tier 1, 2, and 3 analyses of key questions.
6. evaluate results; revise monitoring programs	2.6 Tier 1 3.6 Tier 2 4.6 Tier 3	Evaluation Reports , examining the results from pilot and larger scale monitoring programs, assessing whether intended objectives and levels of precision were met, and recommending improvements to the design or implementation of the programs

Table 2.1 Summary of CSMEP tasks and work products. The specific nature of each task would be developed in quarterly work plans, in concert with other entities actively involved in M&E, so as to avoid any duplication of effort.

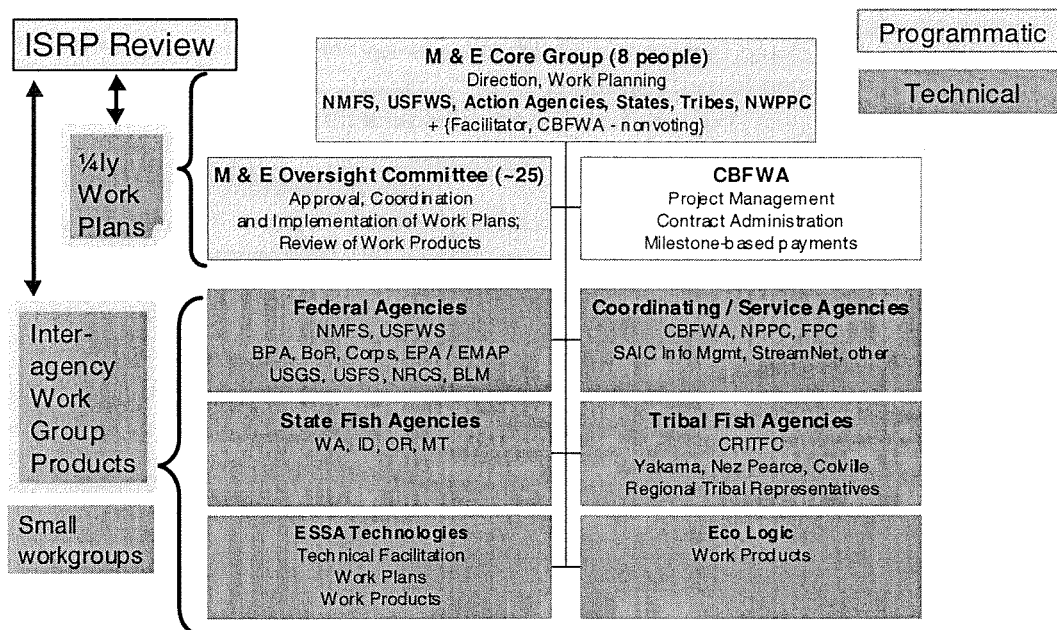
¹ Described in CBFWA's August 23rd response to the ISRP.



8

Figure 2.1 Vision of the CBFWA Collaborative M&E Program, and how it could interact with proposed NOAA pilot projects.

Programmatic review ensures no duplication of effort



6

Figure 2.2 Project organization from original proposal, shaded to reflect programmatic (light purple) and technical (green) levels. The programmatic function could be provided by one or more existing entities (e.g. CBFWA MMG + FCRPS RME Group Management).

Table 2.2. Overall M&E process in CBFWA proposal, and entities responsible. Abbreviations: CSMEP = Collaborative Systemwide Monitoring and Evaluation Program; OC/CG = Oversight Committee / Core Group (Programmatic Level); IWG = Interagency Work Groups (Technical Level).

M & E Steps	Programmatic Support / Interaction Required	Technical Level Activity
1. State the problem 2. Identify the decision 3. Identify inputs to the decision	Each agency identifies their objectives, decisions for which they have authority (e.g. NMFS, USFWS, State and Tribal fish agencies, Action Agencies), alternative actions, and information required to resolve choices amongst these alternative actions. (Intra-agency; outside of CSMEP ²)	Clarify key M&E questions in light of programmatic level discussions.
4. Review existing relevant data (Tasks 2.1, 3.1, 4.1)	Agencies identify contact people who will provide existing inventories / data; allocate time for them to participate. [OC/CG]	Inventory conducted by IWGs, building on existing inventories.
5. Define the boundaries for different studies, including overlaps.	Review questions of interest for species of concern to each agency. Review proposed conceptual designs to meet needs of multiple objectives and species. [OC/CG]	Collaborative discussion of spatial bounds, possible stratification and temporal boundaries for different decisions (steps 1-3), economies of scale to serve multiple objectives and species. [IWG; review by ISRP]
6. Develop “if-then” decision rules 7. Specify metrics for decision errors (both directions) [completed within each agency]	Intra-agency discussions on decision rules (outside of CSMEP). Programmatic level provides technical level with metrics and desired precision ranges.	Interactive discussion between program level advisors in agencies and monitoring and evaluation specialists in these agencies. IWGs provide program level with helpful analyses of how different M&E designs can affect decision errors.
8. Evaluate alternative designs using existing data, simulated data, and alternative methods of data analysis (Tasks 2.3, 3.3, 4.3). 9. Optimize the design for obtaining data needed to fill gaps in existing data and provide information for	Assess cost – precision – error tradeoffs provided by technical work groups. Decide on acceptable designs based on \$ and risk, attempting to meet multiple objectives. [OC/CG]	Explore alternative M&E designs through a collaborative process, considering multiple objectives, different levels of observation error, levels of natural spatial and temporal variability, future trends, and types of analytical methods to estimate parameters of interest. “Test drive” analytical methods. Recommend most cost effective M&E designs with well integrated

² Appendix A of December 5th Work Plan provides a detailed listing of “decision analyses” of interest to NMFS, USFWS, State and Tribal Fish and Wildlife Agencies, groups responsible for harvest regulation, and action agencies / PUDs. This list is a good starting point for steps 1-3, which are outside of CSMEP, but serve as a critical input to it.

M & E Steps	Programmatic Support / Interaction Required	Technical Level Activity
decisions (Tasks 2.4, 3.4, 4.4).		monitoring and data analysis methods [IWG; review by ISRP]
10. Implement pilot monitoring, or large scale monitoring if M&E design is already well established. (New Tasks 2.5, 3.5, 4.5).	Agencies responsible proceed implement recommended monitoring in a co-ordinated fashion (e.g. NMFS, USFS, BLM, Action Agencies, States, Tribes, FPC).	Technical working groups provide design documents, monitoring protocol documents, training, analytical support, data base designs, etc. Results of pilot studies closely monitored.
11. Evaluate results. Apply analytical methods. (New Tasks 2.6, 3.6, 4.6)	Agency scientists apply analytical methods of interest to help their decision makers. Agency scientists provide feedback back to technical level on adequacy of information for decision making.	Assess ability to meet performance standards for data, adequacy of original design and ability to make decisions with agreed upon levels of certainty / risk. IWGs work with agencies at program level to review adequacy of M&E methods; [report reviewed by ISRP].
12. If necessary, revise monitoring and evaluation methods to improve ability to make decisions (i.e. return to step 8 to revise designs, or to step 1 for different decisions).	Program advisors and agency scientists review recommended changes in light of their objectives.	IWGs work to revise M&E methods, and improve ability to answer key questions. Revised designs reviewed by ISRP.

Schedule

A schedule was presented in the Dec. 5th Work Plan, assuming that the project would begin shortly. These stated months are no longer applicable given delays in start up of both CBFWA contract and pilot projects. However, the general duration of tasks is still reasonable.

Objectives and Tasks

- 1. Establish an Oversight Committee and Core Group**
 - 1.1 Create and maintain Oversight Committee, CoreGroup, and project management system

Total days for Objective 1
- 2. Provide monitoring data, evaluations, improved M&E designs [Tier 1]**
 - 2.1 Catalogue existing information relevant to Tier 1 questions.
 - 2.2 Standardized methods to store/display Tier 1 data & metadata
 - 2.3 Develop and apply analytical methods to address Tier 1 questions
 - 2.4 Recommend modified and new monitoring designs for Tier 1
 - 2.5 Implement revised Tier 1 monitoring programs on pilot basis
 - 2.6 Evaluate results from Tier 1 pilot monitoring programs

Total days for Objective 2
- 3. Provide monitoring data, evaluations improved M&E designs [Tier 2]**
 - 3.1 Catalogue existing information relevant to Tier 2 questions.
 - 3.2 Standardized methods to store/display Tier 2 data & metadata.
 - 3.3 Develop and apply analytical methods to address Tier 2 questions
 - 3.4 Recommend modified and new monitoring designs for Tier 2
 - 3.5 Implement revised Tier 2 monitoring programs on pilot basis
 - 3.6 Evaluate results from Tier 2 pilot monitoring programs

Total days for Objective 3
- 4. Provide monitoring data, evaluations and improved M & E designs [Tier 3]**
 - 4.1 Pose hypotheses and organize data to test them
 - 4.2 Organize, store and display data to be used for Tier 3 analyses
 - 4.3 Develop and apply analytical methods to address Tier 3 questions
 - 4.4 Recommend improved management experiments and monitoring
 - 4.5 Implement revised Tier 3 monitoring programs on pilot basis
 - 4.6 Evaluate results from Tier 2 pilot monitoring programs

	2003			2004			2005		
	J	F	M	J	F	M	J	F	M
1. Establish an Oversight Committee and Core Group									
1.1 Create and maintain Oversight Committee, CoreGroup, and project management system									
Total days for Objective 1									
2. Provide monitoring data, evaluations, improved M&E designs [Tier 1]									
2.1 Catalogue existing information relevant to Tier 1 questions.									
2.2 Standardized methods to store/display Tier 1 data & metadata									
2.3 Develop and apply analytical methods to address Tier 1 questions									
2.4 Recommend modified and new monitoring designs for Tier 1									
2.5 Implement revised Tier 1 monitoring programs on pilot basis									
2.6 Evaluate results from Tier 1 pilot monitoring programs									
Total days for Objective 2									
3. Provide monitoring data, evaluations improved M&E designs [Tier 2]									
3.1 Catalogue existing information relevant to Tier 2 questions.									
3.2 Standardized methods to store/display Tier 2 data & metadata.									
3.3 Develop and apply analytical methods to address Tier 2 questions									
3.4 Recommend modified and new monitoring designs for Tier 2									
3.5 Implement revised Tier 2 monitoring programs on pilot basis									
3.6 Evaluate results from Tier 2 pilot monitoring programs									
Total days for Objective 3									
4. Provide monitoring data, evaluations and improved M & E designs [Tier 3]									
4.1 Pose hypotheses and organize data to test them									
4.2 Organize, store and display data to be used for Tier 3 analyses									
4.3 Develop and apply analytical methods to address Tier 3 questions									
4.4 Recommend improved management experiments and monitoring									
4.5 Implement revised Tier 3 monitoring programs on pilot basis									
4.6 Evaluate results from Tier 2 pilot monitoring programs									

3. More Details on Tasks, Work Products and Interactions for 2003-2004

As described in the December 5th Work Plan, the intent of activities in the first year is to complement other existing pilot projects, consistent with the principle of no duplication of effort. In devising tasks for 2003 and 2004, CBFWA work group members attempted to balance two competing needs:

- 1) completing work in depth in a few regions that leads to pilot monitoring programs actually being implemented on the ground (e.g. project 35019); and
- 2) providing an inventory of critical data and metadata across each sub-basin, to set the stage for pilot projects in other regions.

Together these two pieces lay the groundwork for designing and implementing system-wide M&E in future years, as lessons are learned from the first pilot projects implemented, and collaborative relationships are developed through the inventory process in each sub-basin (Figure 3.1).

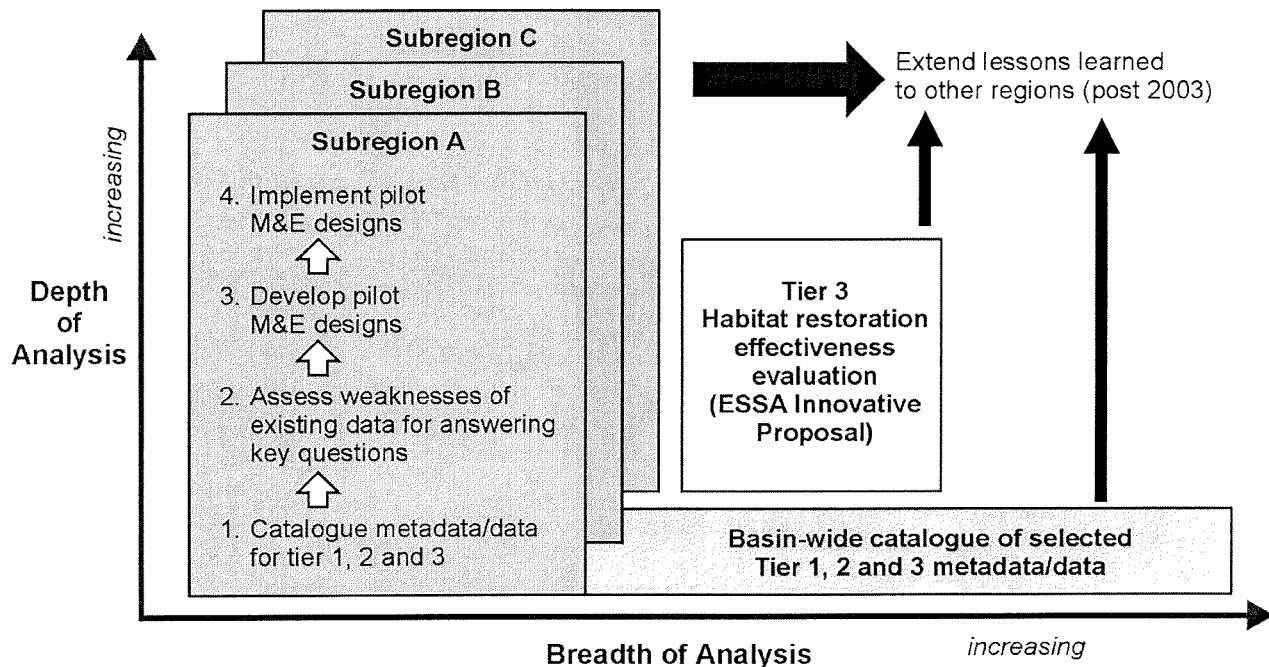


Figure 3.1. Proposed work tasks for fy2003, arrayed along axes of depth and breadth.

Each of the work products described in Section 2 are reviewed below in Table 3.1 with respect to the following factors:

- programmatic level decisions and involvement required to execute each product (an expansion of what's included in Table 2.2);
- required staff resources (people needed; budget still to be determined)
- required interactions with FCRPS RME Group (including both approved and proposed activities), and other related efforts

Task / Products	Staff	Programmatic Input	Key Interactions with Federal RME Group and others
<p>1. inventory data relevant to Tier 1, 2 and 3 questions Catalogues of data and metadata for Tier 1, 2 & 3</p>	<p>CSMEP state, tribal, FPC staff, interacting with their agencies, federal agencies and sub-basin entities.</p>	<p>Support from high level within each agency for CSMEP staff to interact with each agency's field staff in conducting inventory.</p>	<p>Tier 1: Build on existing catalogues completed of RME group; FPC; StreamNet; NMFS; state / tribal fish and wildlife agencies; USFWS; sub-basin summaries and plans; NWPPC databases, ICBEMP; IBIS (coarse habitat information); project 35016 inventory work Tier 2: above agencies + Technical Recovery Teams; U.S. v. Oregon TAC; WDFW / ODFW Status Reports; Pacific Fisheries Management Council Salmon Technical Team; Pacific Salmon Commission; State-Federal Partnership (habitat information -BLM; USFS; USGS; EPA); WA Comprehensive Monitoring Strategy (CMS) Tier 3: <u>Tribs:</u> Build on leads developed through ESSA Innovative proposal for habitat restoration effectiveness; project 35020 inventory work, OWEB. Other H's: Build on RME Hydro, Harvest and Hatchery Work Groups' reviews and gap analyses;</p>
<p>2. organize good data into accessible form Internet accessible modules for useful data & metadata (<i>only if not already available</i>)</p>	<p>Database savvy staff (e.g. FPC; NMFS personnel from proposal 35048; StreamNet)</p>	<p>NWPPC / NMFS strategic direction from CBCIS (CBCIS) project. Support for contacting agency database people</p>	<p>Ensure form of data consistent with access from/to:</p> <ul style="list-style-type: none"> • Columbia Basin Cooperative Information System (CBCIS) • RME Data Management Workgroup • Fish Passage Center (FPC) • StreamNet • Federal Habitat Project Tracking Group • Regional Ecosystem Office (REO) • PTAGIS • CWT recovery and Regional Mark Information System
<p>3. evaluate ability to answer key questions Tier 1 Pilot Analysis Tier 2 Data Analysis Report Tier 3 Data Analysis Plan</p>	<p>M/E specialists with strong statistical background, interacting with field personnel</p>	<p>Confirmation of key questions and level of precision / time required to answer them</p>	<ul style="list-style-type: none"> • Review and build on analyses already done by NMFS, USFWS RME group (e.g. bull trout report); WA State CMS • Build on statistical analyses done by FCRPS RME group for pilot projects (e.g. 35019, 35024)
<p>4. design improved monitoring programs Design Documents</p>	<p>M/E specialists with strong statistical background, interacting with field personnel</p>	<p>Guidance on range of precision level desired and range of funding levels feasible. Agreement to collaborate in M/E, consider designs.</p>	<ul style="list-style-type: none"> • Review and build on analyses already done by NMFS, USFWS RME group (includes many agencies); WA State CMS • Build on experimental designs done by FCRPS RME group for pilot projects (e.g. 35016, 35019, 35024) • Build on knowledge of EPA EMAP group • Build on progress made by state-federal habitat monitoring partnership

Task / Products	Staff	Programmatic Input	Key Interactions with Federal RME Group and others
5. implement pilot projects or large scale monitoring Monitoring Programs Data Bases	field staff from federal, state, tribal and local watershed entities	funding support from implementing agencies that do the monitoring	<ul style="list-style-type: none"> • close coordination with implementors of existing pilot projects to maximize learning, potential application to other areas • build strong collaborative coalitions through earlier tasks to create foundation for acceptance of modified, new approaches to M & E that build on existing data
6. evaluate results; revise monitoring programs Evaluation Reports	analytical staff that understand policy questions of interest ³	clear guidance on questions, and what is inside and outside realm of CSMEP ⁴	<ul style="list-style-type: none"> • coordination on data sets so that common information goes into each agency's analyses • coordination of competing analyses so that results are comparable in a common framework

Table 3.1 Summary of programmatic input required for CSMEP tasks, staff requirements and key interactions with federal RME workgroup and other groups.

³ as explained in Table 2.2, many of these analyses would be completed within each agency, according to their statutory responsibilities

⁴ see Appendix A of December 5th Work Plan for separation of decision analyses and other analyses

APPENDIX A: CBFWA COLLABORATIVE PROPOSAL DEVELOPMENT CHRONOLOGY

2002

Feb 22 Chris Jordon et al. RME Framework Guidelines
March CBFWA Collaborative Proposal development initiated
April 16-17 BPA presentation at RME Workshop outlining Federal RME Proposal
NMFS presentation at RME Workshop on RME needs
June 3 CBFWA Collaborative Proposal submitted to BPA
August 2 ISRP Preliminary Report
August 23 CBFWA provided response to ISRP Preliminary Report
August? BPA comments to Council on Proposal
October 1 BPA presentation to MMG on Federal RME Proposal
October 18 CBFWA FY 2003 Workplan submitted to Council
October 25 CBFWA RME Workgroup meeting to address NMFS' decision analysis concerns
November 6 CBFWA/BPA meeting. SOW requested.
December 10 SOW sent to BPA

2003

January 23 CBFWA/BPA meeting
February 20 CBFWA letter to BPA requesting written comments.
March 14 CBFWA/BPA RME Policy Level meeting.
March 28 CBFWA/BPA RME Technical Level meeting.



COLUMBIA BASIN FISH & WILDLIFE AUTHORITY

Appendix B: Action Notes from Meetings on March 14th and 28th, 2003

April 2, 2003.

DATE: March 17, 2003
TO: CBFWA RME Workgroup
FROM: Frank Young
SUBJECT: Action Notes for the March 14, 2003 Joint BPA/CBFWA RME Coordination Meeting

Action Notes

Attendees: Therese Lamb, Nicole Ricci and Jim Geiselman (BPA); Howard Schaller (USFWS); Bruce McIntosh and Tony Nigro (ODFW); Doug Marker and Steve Waste (NPCC); Brian Brown (NMFS); Rob Lothrop (CRITFC); Rod Sando, Jann Eckman and Frank Young (CBFWA).

By Phone: Lorri Bodi (BPA) and David Johnson (WDFW).

ITEM 1: Identify Regional Research, Monitoring and Evaluation Needs

DISCUSSION: The group decided to first identify the needs and then jointly determine which of the RME project proposals (including the Federal RME Plan) or regional forum would be most appropriate to fulfill that need. It was generally agreed that:

1. There must be assurance that there is no duplication of effort.
2. Each governor's offices will determine how it is represented at the various RME forums.
3. Each tribe will determine how it is represented at the various RME forums.
4. There is a need for involvement at three levels: policy, programmatic and technical.

Policy Level Role:

1. Make decisions about sufficiency – how much is enough?
2. Identify management decisions.
3. Do reality check on what is achievable/realistic.
4. Develop scope of the efforts.
5. Identify and secure appropriate sources of funding.
6. Perform conflict resolution and make final decision for issues elevated from programmatic level.
7. Formalize/endorse programmatic level agreements.

Programmatic Level Role:

1. Establish peer review protocol.
2. Define protocols.
3. Define sampling design.
4. Define population management units.
5. Identify RME issues requiring management decisions, e.g.
 - a. Performance metrics
 - b. Hypotheses
 - c. Action effectiveness
 - d. Critical uncertainties
 - e. Evaluation of uncertainties
6. Assess ongoing work for gaps.
7. Define options for scope/resource management.
8. Do project management.

Technical Level Role:

1. Catalog existing work.
2. Collect data.
3. Implement sample design.
4. Perform data analysis for programmatic team interpretation (i.e. estimates of lambda)

ITEM 2: Policy Oversight Level Representation

DISCUSSION: It was agreed that a Policy Oversight Team will be formed and consist of:

1. Governor's delegate and tribes
2. Federal agencies
3. Council and CBFWA representative
4. Umbrella organizations (CRITFC, UCUT et. cetera)

It is understood that regulatory agencies will develop their own criteria for decision-making within their areas of responsibility and perform their own decision analysis.

ITEM 3: Next Steps

ACTION: There was agreement on the following for the next meeting:

1. Assign listed tasks above to appropriate proposals or forums.
2. Describe policy forum to guide RME activities.

ITEM 4: Assignments

DISCUSSION: The following assignments were agreed upon:

1. Work with CBFWA RME Workgroup and Nicole Ricci to develop a side by side comparison of the 5 NMFS proposals, the CBFWA Collaborative Proposal and the Federal RME Plan. (*Frank Young*)
2. Assemble group, including BPA and CBFWA representation, to address Mainstem/Systemwide budget issues. (*Doug Marker*)



April 2, 2003.

DATE: April 3, 2003
TO: RME Workgroup
FROM: *Frank Young*
SUBJECT: DRAFT Action Notes from March 28, 2003 CBFWA/BPA RME Technical Workgroup

**Joint CBFWA/BPA RME Technical Workgroup Meeting
March 28, 2003
CBFWA Office
Portland Oregon**

Draft Action Notes

These notes have not yet been reviewed by BPA.

Attendees: Keith Wolf (UCRTT & CCT); Bruce Schmidt (PSMFC & Streamnet); Dave Statler (NPT); Dave Marmorek (ESSA); Chris Toole and Chris Jordan (NOAA Fisheries); Roy Beaty, Jim Geiselman and Nicole Ricci (BPA) and Frank Young (CBFWA).

Time Allocation:	Objective 1. Project Recommendations	100%
	Objective 2. Regional Issues	%
	Objective 3. Annual Report	%

ITEM 1: Comparison of the NMFS Revised RME Proposals and the Federal RME Plan to the CBFWA Proposal

DISCUSSION: Frank Young stated that Chris Jordan and Dave Marmorek had been asked to jointly develop a table (attached) displaying the five Federal Proposals (35016, 35019, 35020, 25024, 35048) and the CBFWA Proposal 35033 (based on a suggestion by Brian Brown with the concurrence of Frank and Nicole Ricci). The table was to demonstrate how these proposals addressed the list of needs developed by the March 14 CBFWA/BPA RME Policy Level Workgroup and to show how the CBFWA Proposal provided "value added", without overlap, assuming all Federal Proposals were funded. There was some discussion over the difficulty in determining exactly what was intended by the wording of the identified needs. This was particularly the case for the tasks of "Define monitoring protocols" and "Define sample design", which both Chris J. and Dave M. saw as being squarely within the scope of the above 6 projects (see Table), yet Nicole and Jim perceived as being outside of these projects' scope and within the mandates of the organizations who ultimately fund monitoring.

Frank had provided some guidance earlier to Chris and Dave for the needs in question based on his best judgment of what the policy group had intended. Clearly there is a need for further clarification of scope, which is probably best facilitated by re-examining and where necessary revising the December 5th Draft Work Plan.

Chris summarized the information in the table relative to the Federal Proposals. Dave then reviewed the information from the table relating to the CBFWA Proposal and presented a PowerPoint presentation (attached) that further described the essential elements of the CBFWA Proposal. A key point is that the CBFWA Work Plans would be designed to **compliment** existing projects and not duplicate any work in them. Nicole indicated that the future of four of the five Federal Proposals was uncertain in light of the recent ISRP review which had recommended funding only one of the five Federal Proposals. Nicole also wanted to see the entire FCRPS RME Plan compared to the CBFWA Proposal, not only the five Federal pilot projects. It was suggested that this comparison be done (at least in an overview manner) for the April 3rd meeting.

The display of a recommended coordination structure at the programmatic and policy levels lead to considerable discussion over whether the CBFWA proposal called for funding of process at the programmatic level. Nicole was concerned that this would set a precedent for BPA funding general M&E programs across the Basin. Frank stated that the proposal only calls for the funding of FTEs at the **technical** level to develop work products and the facilitation services required to assure a regional work product. He also stated, however, that it will be very important to assure that the contract with BPA does not constrain funding for participation in regional forums at all levels necessary to assure that these coordinated technical work products can be developed. Frank stated that the coordination structure outlined in the proposal (i.e. Core Group) was not intended as part of a funding contract, but was merely to demonstrate that a coordination structure similar to the one illustrated in the proposal was necessary to accomplish the system-wide coordination of M & E. Programmatic level discussions would be funded separately.

ACTION: It was agreed that Chris J. and Dave M. would make an expanded presentation to the April 3 CBFWA/BPA RME Policy Level meeting, adding a comparison of other elements of the FCRPS RME Work Plan not already subsumed in the 5 federal pilot projects. In addition Dave would revisit the tasks and work products in the December 5th Work Plan, recognizing that there is some uncertainty in what federal pilot projects are likely to proceed, and therefore what work is required to compliment them.

ITEM 2: Discuss Characteristics of Existing Policy Forums with Potential for use to Provide Oversight for RME Activities

DISCUSSION: There was insufficient time to fully address this agenda item.

ACTION: There was agreement that no existing forum would meet the all policy level RME coordination needs and further discussion will need to occur at the planned April 3, 2003 joint policy level meeting.

Appendix C: Summary of NMFS 5 Pilot Projects, CBFWA Collaborative Systemwide M&E Program, and Federal RME Program

CJ = Chris Jordan; CT = Chris Toole; DM = David Marmorek

General Features	35016: Pilot Study to Test Links between Tier 1/2/3 Monitoring Data [CJ]	35019: Integrated Subbasin-scale Status & Watershed Scale Effectiveness Monitoring Program for Salmonid Populations and Habitat [CJ]	35020: Regional Project Effectiveness Monitoring for Columbia River Basin Listed Anadromous Salmonids [CJ]	35024: Evaluate sublethal impacts of current use of pesticides on environmental health of salmonids in Columbia River Basin [CJ]	35048: Research Monitoring and Evaluation Habitat Data management and Federal Habitat Committee Project Tracking Pilot [CJ]	Value added to NMFS' 5 projects by 35033: Collaborative, Systemwide Monitoring and Evaluation Program (CSMEP) [DM]	Federal RM&E Plan activities (beyond 5 pilot projects) in 6 Working Groupsⁱ [CT] [DM]
Policy Role							
Programmatic Role							
Technical Role							
General Features							
Spatial Extent of Study	Willamette and John Day River basins	Wenatchee, John Day, Salmon River basins, plus others to be identified.	Clearwater, Salmon, plus others to be identified.	Yakima, Wenatchee River basins	Columbia River basin	Columbia River basin	<i>Columbia River Basin</i>
Species Coverage	Salmonids	ESA listed anadromous salmonids	ESA listed anadromous salmonids	ESA listed anadromous salmonids	Salmonids, and other species as needed for Sub-basin pilots	Salmon, steelhead, bull trout and other regionally important species	<i>ESA listed anadromous salmonids</i>
Study Participants	OSU, UoO, USBR, USFS, NMFS	WDFW, USFS, WDE, UCRTT, ODFW, CTWSR, OSU, ODEQ, OWEB, IDFG, NPT	NMFS, Nez Pierce, Yakima, Shoshone-Bannock, WDFW	NMFS, and data from USGS, EPA, WDOE, WSDA – potential for considerable cost sharing with several other state and federal agencies.	Data sources: Action agencies, USFS, BLM, EPA States, Tribes StreamNet	CBFWA, NMFS, Action agencies, RME Work Group, USFWS, WDFW, ODFW, IDFG, MFWP, FPC, CRITFC tribes + Yakama, Nez Perce, Colville; BLM + USFS ⁱⁱ	<i>Fed Agencies - anticipates coordination with states/tribes in futureⁱⁱⁱ</i>

<p>General Features</p> <p>Policy Role</p> <p>Programmatic Role</p> <p>Technical Role</p>	<p>35016: Pilot Study to Test Links between Tier 1/2/3 Monitoring Data [CJ]</p>	<p>35019: Integrated Subbasin-scale Status & Watershed Scale Effectiveness Monitoring Program for Salmonid Populations and Habitat [CJ]</p>	<p>35020: Regional Project Effectiveness Monitoring for Columbia River Basin Listed Anadromous Salmonids [CJ]</p>	<p>35024: Evaluate sublethal impacts of current use of pesticides on environmental health of salmonids in Columbia River Basin [CJ]</p>	<p>35048: Research Monitoring and Evaluation Habitat Data management and Federal Habitat Committee Project Tracking Pilot [CJ]</p>	<p>Value added to NMFS' 5 projects by 35033: Collaborative, Systemwide Monitoring and Evaluation Program (CSMEP) [DM]</p>	<p>Federal RM&E Plan activities (beyond 5 pilot projects) in 6 Working Groupsⁱ [CT] [DM]</p>
<p>Policy Level Role</p>							
<p>1. Make decisions about sufficiency – how much is enough?</p>	<p>Develops results that inform decisions regarding how much, and what type of, monitoring is enough to meet obligations of BiOp RPA 181?</p>	<p>Develops results that inform decisions regarding how much, and what type of, monitoring is enough to meet obligations of BiOp RPAs 180 and 183.</p>	<p>Only to the extent that the information from 35020 may inform these processes regarding the impact of habitat restoration actions (RPA 183).</p>	<p>No</p>	<p>Proposed needs assessment to identify specific collection and reporting needs.</p>	<p>CSMEP provides analyses of how much M&E required to answer key questions (as per Jordan et al. 2002 and expanded in proposal) to various levels of precision. Questions ultimately respond to FCRPS and USFWS BiOp's.</p>	<p><i>Gap analysis for FCRPS Biop requirements</i></p>
<p>2. Identify management decisions.</p>	<p>Supports management decisions that result from assessments of landscape scale patterns of LU/LC</p>	<p>Supports management decisions that result from assessments of population and habitat status and the effectiveness of habitat restoration actions.</p>	<p>as above</p>	<p>Identify critical issues / uncertainties.</p>	<p>N/A (except for business rules about the data pilots.</p>	<p>Management decisions are identified by each agency, outside of CSMEP. Common (and complimentary) agency needs for M&E are a key driver of CSMEP activities, and improved M&E inputs to decisions are a key product.^{iv}</p>	<p><i>Limited to ESA decisions in NMFS FCRPS Biop (USFWS anticipated in future)</i></p>

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<p>3. Do reality check on what is achievable / realistic.</p>	<p>Project assesses monitoring program and protocols.</p>	<p>Project assesses monitoring program and protocols.</p>	<p>as above</p>	<p>Science to support prioritizing recovery actions.</p>	<p>After the needs assessment a formal go/no decision is built into the proposal</p>	<p>Provides info on cost-precision tradeoffs for various M&E options. Scale of M&E investment up to agencies.</p>	<p><i>Modifies Biop expectations to match likely available resources in some cases</i></p>
<p>4. Develop scope of the efforts.</p>	<p>Within project, and to support planned expansion of program.</p>	<p>Within project, and to support planned expansion of program.</p>	<p>No – The BiOp defined the scope of the effort in the CRB.</p>	<p>No.</p>	<p>Will be based on user needs</p>	<p>Quarterly work plans define scope of work in response to policy needs and complimenting existing M&E projects.</p>	<p><i>Defined by FCRPS Biop Geographic scale of status monitoring dictated by TRTs (pg. 7)</i></p>
<p>5. Identify and secure appropriate sources of funding.</p>	<p>No.</p>	<p>No.</p>	<p>No</p>	<p>No.</p>	<p>The proposal will not locate further funding but it brings a cost share from NWFSC</p>	<p>Not a specific CSMEP activity, though collaboration will increase cost-effectiveness of M&E</p>	<p><i>Plan is designed in context of likely BPA, USBR, and Corps funding. Questions regarding NMFS vs Action Agency funding referenced, but not resolved.</i></p>
<p>6. Perform conflict resolution and make final decision for issues elevated from</p>	<p>No.</p>	<p>No.</p>	<p>No</p>	<p>No.</p>	<p>Where data analysts identify data needs conflicts they will be resolved</p>	<p>No. CSMEP Core Group (programmatic level) designed to resolve conflicts</p>	<p><i>Issues identified by Federal RM&E Team are elevated to Federal Caucus. None identified in</i></p>

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<p>programmatic level.</p>					<p>before development \$'s are committed.</p>	<p>before they bubble up. Facilitation and co-ordination a key part of Core Group function.</p>	<p><i>the Plan.??</i></p>
<p>7. Formalize, endorse programmatic level agreements.</p>	<p>No.</p>	<p>Yes.</p>	<p>No</p>	<p>No.</p>	<p>The data solution is a pilot deployment which will identify ongoing programmatic needs for longer term resolution</p>	<p>No. Various work products do however provide the technical foundation for such agreements.</p>	<p><i>Programmatic agreements w/in Federal Agencies formalized through Federal Caucus. Mechanism for non-Federal coordination undefined at present.</i></p>
<p>Programmatic Functions</p>							
<p>1. Peer Review</p>			<p>Yes^v</p>	<p>Yes</p>	<p>Proposed</p>	<p>Yes</p>	
<p>a. Regional</p>						<p>Oversight Committee</p>	<p><i>Yes</i></p>
<p>b. ISRP</p>						<p>Yes</p>	<p><i>Yes</i></p>
<p>c. National</p>						<p>Journal paper review</p>	<p><i>??</i></p>

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<p>2. Define monitoring protocols</p>	<p>Yes: landscale scale LULC classification</p>	<p>Yes: status and trend habitat and population metrics.</p>	<p>Yes: project effectiveness protocols^{vi} (page 18-22)</p>	<p>Yes (water quality in particular).</p>	<p>N/A to data management pilot</p>	<p>Yes. Assess, design, test and implement monitoring protocols at all three tiers, building on inventory of existing M&E strengths and weaknesses (tasks x.3 to x.6)^{vii}</p>	<p><i>Yes, but at varying levels of detail for hydro vs tribs vs estuary/ocean</i></p>
<p>3. Define sampling design</p>	<p>Yes: landscape scale sampling, and remote sense data interpretation.</p>	<p>Yes: spatially balanced sampling program status and trend monitoring.</p>	<p>Yes: experimental design for habitat effectiveness action monitoring (page 8)</p>	<p>Yes: to assess water quality of watershed/subbasin.</p>	<p>N/A to data management pilot</p>	<p>Same as above but for sampling designs</p>	<p><i>Same as above</i></p>
<p>4. Define population management units</p>	<p>No.</p>	<p>No.</p>	<p>No^{viii}</p>	<p>No.</p>	<p>N/A to data management pilot</p>	<p>No, defined by NMFS, USFWS, etc. But CSMEP to determine implications of overlays in management units for coordinated M&E.</p>	<p><i>No - defer to TRTs</i></p>

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Policy Role							
Programmatic Role							
Technical Role							
5. Identify RME issues requiring management decisions:							
5a. Performance Metrics	Yes: monitoring metric precision and accuracy,	Yes: monitoring metric precision and accuracy,	Yes ^{ix}	Identify key water quality stressors.	N/A to data management pilot	Yes. Monitoring metric precision and accuracy; ability of alternative metrics and designs to address key questions	Biological performance stds for λ , life stage survival rates, flow targets, spill schedules described in FCRPS BiOp. <i>RME groups have recommended improvements to performance metrics, but development incomplete.</i>
5b. Hypotheses	Yes: e.g., that landscape scale indicators inform management decisions at finer scales.	Yes: e.g., aggregate habitat actions effect population processes as indicated by altered fish productivity metrics.	Yes e.g., specific habitat actions effect population processes as indicated by altered fish productivity metrics. (page 14)	Yes.	N/A to data management pilot	Yes. Tasks 2.3, 3.3, 4.3 pose hypotheses to formalize how specific Tier 1, 2 and 3 questions will be addressed statistically.	<i>Not explicit, except for critical uncertainties (i.e. D and Extra Mortality)</i>
5c. Action Effectiveness	Yes. of what type, scale	Yes.	Yes (the whole thing)	Yes.	N/A to data management pilot	Yes. Hydro, habitat, harvest (not hatchery)	Yes. Trib AER under 35019 and 35024. Hydro AER under Corps AFEP.

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							<p>RFPs to be issued for studies of Hatchery / Harvest AER to fill gaps.</p>
<p>5d. Critical uncertainties</p>	<p>Yes.</p>	<p>Yes.</p>	<p>Yes (page 4)</p>	<p>Yes.</p>	<p>N/A to data management pilot</p>	<p>Yes. Life cycle approach forces recognition of various critical uncertainties discussed in NMFS and USFWS BiOp's.</p>	<p>Yes</p>
<p>5e. Evaluation of uncertainties</p>	<p>Yes.</p>	<p>Yes.</p>	<p>To the extent that this program will provide the data upon which these decisions are based.</p>	<p>Yes.</p>	<p>Pilot proposal manages data uncertainties... not scientific</p>	<p>Yes. Each Work Product will specify uncertainty in results due to limitations of both data and conceptual understanding.</p>	<p>Yes</p>
<p>6. Assess ongoing work for gaps</p>	<p>No.</p>	<p>Yes.</p>	<p>To a limited degree</p>	<p>Yes (fill major data gaps with respect to water quality)</p>	<p>User groups must identify data gaps, with guidance from data analysts</p>	<p>Yes. Collaborative Core Group and Oversight Committee reviews Work Plans and Products for gaps.</p>	<p>Yes. Pop/Env Status, Hydro and Hatchery / Harvest WG's doing gap analysis, but without formal collaboration w states, tribes, FPC, CSS, USFWS.</p>

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Policy Role							
Programmatic Role							
Technical Role							
7. Define options for scope / resource management	Supports these decisions.	Supports these decisions.	To a limited degree	No.	User groups will define data scope need for resource management reporting	Task x.3 analyses different options for answering Tier 1, 2 and 3 questions	<i>In some cases</i>
8. Do project management	#35016 only	Within project scope.	Yes (Task 2, page 17-25)	#35024 only	Pilot projects propose detailed Rapid application development project management methodology	Core Group develops quarterly Work Plans for review by Oversight Committee. Strict monitoring of performance by CBFWA project manager.	<i>No</i>
Technical Level Role							
1. Catalog existing work	Yes. be more specific	Yes.	To an extent defined by the local area of the projects	Yes.	Needed data will be cataloged	Yes. Inventory phase of CSMEP (Tasks x.1 & x.2) assesses strengths and weaknesses of existing data, building on previous assessments and catalogues.	<i>Calls for this, but doesn't do it. Cataloguing of existing status monitoring initiated by NMFS in Pop/ Env. Status WG^x Gap analysis by Hydro WG</i>
2. Collect data	Yes.	Yes.	Yes	Yes.	Currently needed but uncollected and	Yes. Collection of data will be completed by	<i>Calls for this, and recommends methods of data</i>

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					consolidation of currently needed and collected	federal, state and tribal entities, based on collaborative CSMEP design work.	<i>collection, but doesn't do it</i>
3. Implement sample design	Yes.	Yes.	Yes	Yes.	Not applicable to pilot proposal	New M&E designs will build on existing monitoring, revising or replacing as required. Implementation done by state and tribal entities.	<i>Recommends sampling designs, but doesn't implement them.</i>
4. Perform data analysis for programmatic team interpretation	Yes.	Yes.	Yes	Yes.	Data analysis is not proposed except for providing generic capability for GIS spatial analysis. Ad-hoc queries and a limited number of needed reports	Yes. Data analyses will provide information on population / habitat status and trends as input to regional decisions. Decision analyses are within authority of each participating agency.	<i>?? May do this for Hydro elements of Plan; not sure about other elements.</i>

Endnotes

ⁱ A. Population and Env. Statusⁱ, B. AER (Action Effectiveness Research)ⁱ, C. Hydro, D. Estuary / Ocean, E. Hatchery / Harvest, F. Data Mgmt. Most of the activity of Workgroup A is contained in pilot projects 35016 and 35019 (see RME Workplan pg. 19: "The initial phase...will be subbasin scale pilot programs...". While the spatial scope is limited to these regions, the depth of the projects is similar to the basin-wide activities described in the RME Workplan. Similarly, most of the activity of the AER Workgroup for tributaries is contained in pilot projects 35019 (watershed based) and 35024 (project based) (see opening paragraph of Appendix B, pg. 54).

ⁱⁱ Specific personnel from BLM and USFS not yet confirmed, but all project sponsors have agreed to invite their participation.

ⁱⁱⁱ RME Workplan mentions monthly "Federal / State / Tribal Partnership Meeting", and "possibly state and tribal participation" in RME Workgroups. (pg. 15 of 12/20/02 Draft)

^{iv} See Appendix A of Dec. 5th Draft Work Plan for CSMEP which separated three kinds of analyses and deliverables: 1) "decision analyses" under each agency's discretion (*outside scope*), 2) analyses describing population / habitat status and trends (*in scope*), and 3) analyses leading to design and implementation of M&E (*in scope*)

^v There is an explicit reference to putting the monitoring plans back in front of the ISRP for task 2C (page 25).

^{vi} The proposal is to coordinate four existing projects and create a new one. In each case the first step is an assessment of how to develop the study design (including sampling and experimental design) (page 19-20) and the results will address the performance of actions (page 13-18). To do that, we need an inventory of projects. As the results accumulate, the difference between what is possible and what is not will be revealed.

^{vii} See original June 2002 proposal and August Response to ISRP for description of tasks that inventory, explore, optimize, implement and evaluate M&E programs.

^{viii} The population units are defined by the TRT – we are placing monitoring onto projects opportunistically where we can.

^{ix} Performance metrics are currently based on opinion rather than explicit experiment. This program will test the value of performance metrics in current use.

^x pg. 19 of RME Action Plan refers to spreadsheets summarizing state and tribal salmonid status monitoring programs. This appears to be an update of <http://www.cbfwa.org/files/province/systemwide/subsum/StockStatAppendixA.xls>

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