BPA/NOAA/PNAMP Environmental Conservation and Restoration Project Implementation Tracking Workshop NOTES

Date: December 1-2, 2009
Location: Doubletree Hotel, 1000 NE Multnomah Street, Portland, Oregon, 97232 (map)
For more information, visit the workshop webpage: http://www.pnamp.org/imp_wksp

I. WORKSHOP WELCOME

Introduction: Collaboration Opportunities for Implementation Management
Presentation: Overview of workshop goals (*Russell Scranton, Bonneville Power Administration; Scott Rumsey, NOAA Fisheries; and Jen Bayer, PNAMP*)

II. SETTING THE STAGE FOR COLLABORATION: EXISTING IMPLEMENTATION TRACKING SYSTEMS

Introduction: What implementation tracking systems exist now & how do systems relate to one another?
Presentation: Information about existing implementation tracking systems was gathered via a survey prior to the workshop. Preliminary results of the survey were presented, including graphic mapping of how data systems relate to one another (*Paul Cereghino, NOAA Fisheries*)

Getting to know these systems: Lightning Talks
Presentations (links to presentations in blue):

- Pisces, Bonneville Power Administration (*Matt Deniston, Sitka Technology Group)*
- Taurus, Bonneville Power Administration (*Ben Zelinsky*)
- Restoration Center Database & National Estuary Restoration Inventory, NOAA (*Paul Cereghino*)
- Pacific Coast Salmon Recovery Fund (PCSRF) database & Pacific Northwest Salmonid Habitat Project (PNSHP) database, NOAA Fisheries (*Brendan Sylvander*)
- ECOS and Recovery Action Online Reporting (ROAR), U.S. Fish & Wildlife Service (*Grant Canterbury*)
- Habitat Information Tracking System, U.S. Fish & Wildlife Service (*Kathy Hollar*)
- Tracking and Integrated Logging System, Consulted-On Effects Database, U.S. Fish & Wildlife Service (*Daniel Brown*)
- Information, Planning, and Consultation System, U.S. Fish & Wildlife Service (*Daniel Brown*)
- Fishery Information System (FIS), U.S. Fish & Wildlife Service (*Sean Connolly*)
- Salmon PORT, Lower Columbia Salmon Fish Recovery Board (*Bernadette Graham Hudson*)
- Oregon Watershed Restoration Tool, Oregon Watershed Enhancement Board/Oregon Explorer (*Marc Rempel, Oregon State University - The Valley Library*)
- The Conservation Registry, Defenders of Wildlife (*Gina LaRocco*)
- PRISM, Washington Recreation and Conservation Office (*Scott Chapman*)
- Habitat Work Schedule, Washington Department of Fish and Wildlife (*Erik Neatherlin*)

- Miradi, Foundations of Success (*Nick Salafsky*)
- Con Pro, The Nature Conservancy (*Dan Salzer*)

Getting to know these systems: Live Interaction Session with systems above

- Additional systems participating in the demo:
  - Ecosystem Restoration Business Line, U.S. Army Corps of Engineers (*Jeff Laufle*)
  - Status of the Resource, Columbia Basin Fish & Wildlife Authority (*Binh Quan, Tom Iverson*)

III. CONTENT: SUBJECT GROUPS FOR IMPLEMENTATION TRACKING

Introduction: What is informed by tracking systems? Exploration of collaboration needs and opportunities based on consideration of some high priority subject groups for implementation tracking.

- **High Level Indicators: what is being reported as "implementation HLI's"?**
  Overview of efforts across the Pacific Northwest, including the Northwest Power and Conservation Council's HLIs, Columbia Basin Fish and Wildlife Authority's Status of the Resource Report, and the PNAMP facilitative role**:** what are implementation tracking and general monitoring HLIs and performance measures and how are they reported?
  Presentations:
  - Overview of existing efforts: (*Nancy Leonard, Northwest Power and Conservation Council, Scott Rumsey, NOAA Fisheries NWR*)

  Q& A Session:
  - How do HLIs trigger management changes?
    - Depends on scale of HLI relative to management
    - Need to put HLIs in context of established targets
  - Process for choosing a subset of implementation indicators as 'HLIs'
    - Inventory set of all possible metrics
    - Narrow list down based on Fish & Wildlife Program goals, seeking public comment on most 'useful' indicators, host public workshops
    - Consider various audiences - Congress, public
  - Pros and cons of standard units of measure versus allowing each program to have unique measures and crosswalking
    - Programs in reality will need to maintain some unique metrics
    - Must have good metadata to complete crosswalks
  - How close are we to agreement on indicators? Establishing targets for indicators?
    - This is still a challenge and we have a ways to go, but it is important that we continue to define what our needs are.

- **Evaluation for Effectiveness:** Examples of how implementation monitoring is used for action effectiveness assessment were presented.
  Presentations:
  - Overview of NOAA Habitat action effectiveness metrics and tools *(Katie Barnas, NOAA Fisheries)*
  - SRFB/OWEB cooperative effectiveness monitoring *(Jennifer O'Neal, Tetra Tech)*
  - Puget Sound Nearshore Project and ESRP learning strategies *(Paul Cereghino, NOAA Fisheries)*
  - Overview PNAMP Action Effectiveness Monitoring Project Inventory and Evaluation Project *(Russell Scranton, Bonneville Power Administration)*

Q& A Session

- How should cause and effect be managed and who has the burden of proof?
    - Funding entities should have burden of proof but there is tension that effectiveness studies increase administrative costs for programs
    - Depends on scale - project vs. state level
    - Independence of inquiry - academia, science centers
- What evidence do we have that implementation indicators and effectiveness evaluations work?
    - Challenges - often there is not a clearly defined statement of how a model will work; we work within a changing environment
    - Need to be clear about what we're trying to do in order to strengthen the models - build weight of evidence
    - Still somewhat an experiment based on how recent these ideas have started to be implemented - still collecting the data we need, systems are still young
- How can we better coordinate effectiveness monitoring yet still capture the diversity of project types (e.g., standardize reporting metrics yet require project sponsors to monitor and report on those metrics)?
    - Often project sponsors claim success without defining targets for effectiveness
    - Programs define targets but allow projects to determine monitoring design - don't make project responsible for strategy, make people at appropriate levels responsible for steps.
    - Need to have more holistic look at strategies that will be effective at the ecosystem scale
    - Projects need to clearly define objectives (define metrics that are meaningful) and then report on progress
    - Need to identify criteria for success - tie into funding
- What is scale/unit of effectiveness? How do you truly evaluate whether actions are having the desired conservation effect?
    - Try to think about effectiveness at the level of individual strategy; get people to share success and failures in each individual component more readily than for the project as a whole
    - Effectiveness monitoring must contemplate 'pursuit of learning' to validate expected treatment-response relationships
        - Be careful about where you spend energy; separate pursuit of rollup performance and the pursuit of learning (these are mixed right now)
    - Funding is limited - can't afford effectiveness monitoring for each and every project. Employ larger scale scientific designs that you can generalize; need to communicate results and learning effectively
    - With each effectiveness study we learn how better to focus inquiry for the next study such that we can better generalize results
- When do we learn that some project types work so that we don't have to continue spending money to demonstrate effectiveness?
    - (+)Fish passage work with sufficient juvenile density
    - (-)Spawning gravel - too few treatments
    - Further study on habitat complexity modifications
- Questions that could be on a future work agenda for coordinators of effectiveness monitoring activities
    - Evaluate what we have learned in terms of how well effectiveness projects work, or don't.

- **Action Tracking:** Several systems presented a brief background of how their system manages actions, how they got to this point, lessons learned, how systems are being maintained, and any plans for future development.

  Presentations:

  - The Conservation Registry: Supporting action planning, coordination, & sponsorship *(Gina LaRocco, Defenders of Wildlife)*
  - Conservation Measures Partnership/IUCN Action Tracking *(Dan Salzer, The Nature Conservancy)*
  - Pisces Work Elements *(Ben Zelinksy, Bonneville Power Administration*)
  - Habitat Work Schedule: Tracking a 3-year implementation work plan (*Sara Simrell, Paladin Data Systems Corp.*)

Action Tracking Q&A Session

- Link to Conservation Biology publication : A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions (Salafsky et al.)
- Lessons learned:
  - Pay people to enter data
  - Criteria to evaluate alternative category and classification systems
  - Get advisory group on board early on
  - Look at what is already out there and expand/customize for your needs - don't reinvent the wheel
  - Keep actions exclusive - a single act can support many objectives - inconsistency if you can choose multiple tasks to describe your work
  - Give incentives/ provide support for databases management teams to work with other teams - help give bigger picture view
  - Keep policy objectives in mind from the beginning
- Accountability/responsibility in terms of creating systems
  - Be explicit about accountability at the beginning of system creation - have a single point of contact to maintain the system
  - Funding requirements
  - Ability to answer questions/queries more quickly
- What is the possibility for building tools to help support users on the ground and having that inforamtion feed into what the organizations need to make decisions?
  - Tools are in the systems (or are intentions of systems), just underutilized
  - Falling short if systems are not reducing costs for data collectors
  - Ideally, information would be put in one place, then harvested by other systems
- Need to focus on effects, not just actions.
  - Need conceptual modeling of our understanding of effects and use that to select new projects to fund
  - To link assumptions to action selections is hard because stakeholders are not always in it for the same reasons
  - Use logic as basis, then evaluate actions
- What are the reasons that someone shouldn't use your tool?
  - Pisces -Limited future vision (less than one year); lack of objectives, cost share
  - HWS - flexibility leads to weak referential integrity at times
  - Conservation Registry - flexibility of systems causes inaccuracies (user generated) in data; duplication
  - ConPro - Data quality

        - Online reporting system through OWEB (OWRI) - high level of quality control of user interface - data entered real time, can see inaccuracies right away and fix before data gets released to other systems
            - See value in agencies maintaining their own databases for this reason; Conservation Registry heavily relies on agency QC of data

- Action Tracking Work session: summarize current state of affairs, determine if there are other standardized action schemas, discuss relative strengths and weaknesses, list use cases (real and imagined) for aggregating actions in these different systems, discuss possibilities/challenges with developing crosswalks and sharing data, determine who is interested in providing and/or consuming action data.
    - Would like to form a 'guild' of database managers (collection of craftspeople)
        - Data modeling
        - Information design
    - Helping each other in small ways, bouncing ideas off colleagues
    - Advantages for members of the guild
        - Camaraderie
        - Helping each other out in small ways will come back to you
        - No more reinventing the wheel
    - Use PNAMP website to deliver/share information
    - Policy makers always trying to meet the demands of today - guild can think about the best ways to deliver data in order to meet needs of policy makers - provide consistent, credible advice about data management
    - Driving for integration of data for rollup to performance measures - in need of efficiencies that can only be conceived of at the technical level, not the policy level
    - Reservations from audience:
        - Wouldn't be part of guild at the technical level because there are others better suited from their agency
            - Value of guild for these policy people would be data that informs project development - data quality, quantity
            - Increase interaction from people that are looking for local project sponsors, more fluid communication pathway, better information sharing
            - Guild could help provide continuity between actions and the way the data is collected and stored (throughout the whole life cycle of information)
        - No agreement about what should be done - numerous databases
            - Difficult to envision or work toward one system but should focus on more than one species at a time
            - Managers haven't necessarily recognized this - drivers tend to be agency specific
        - No common framework on how to manage fish and wildlife data (who's driving the bus)
    - Suggestions of how to form a guild:
        - Define some specific use cases that would benefit from an interagency and interdisciplinary discussion - demonstrate the power of integrating systems
    - What would it take to get people to participate:
        - Show that it would be beneficial by having standards
        - Focus on tangible products
    - How to recruit others that are not here today:
        - Ask people that do participate to inform their colleagues

IV. METADATA & STANDARD VOCABULARY AS ELEMENTS OF INTEROPERABILITY

Introduction: Metadata & Standard Vocabulary as elements of interoperability: Terminology, Definitions and Crosswalks - Project, Action, Program, Activity, Work Element, Attribute, Metric, Variable, Indicator, Measure, Limiting Factors and Threats; these terms mean something, but not necessarily the same thing to each of us.

Presentations:

Standard vocabulary topics:

- Conservation Measures Partnership - Standard Terminology - Rosetta stone. *(Nick Salafsky, Foundations of Success)*
- Implementation Crosswalk and Monitoring Glossary: Basis for Terminology in Tracking Systems *(Russell Scranton, Bonneville Power Administration)*
- Establishing Baseline Conditions Using Wildlife-Habitat Relationships Definitions *(Tom O'Neil, Northwest Habitat Institute)*

- **Standard vocabulary topics specific to Limiting Factors and Threats:** How are they used in implementation? How are they defined? How do projects relate to limiting factors and threats?
  - NOAA data dictionary for Limiting Factors and Threats for Salmon- Project relationships (*David Hamm, NOAA Fisheries)*
  - Conservation Measures Partnership / IUCN classification of Direct Threats (*Nick Salafsky, Foundations of Success)*
  - Application of Limiting Factors & Threats for tracking and Web Services (*Ben Zelinsky, Bonneville Power Administration)*

- Work session: describe the current state of affairs, identify needs and specific issues, determine goal for future, and determine who is willing to work collaboratively later.
  - Zelinsky talk suggestions for other case studies
    - Upper Columbia work
    - Recovery planning work for salmon and steelhead
    - Operationalize knowledge
  - Call for volunteers, participants asked to fill out signup sheet
  - Clarification on Salmonid names dictionary
    - Salmonid population names
    - Develop web service to support
    - Columbia basin focus right now
    - GIS layer for ESA listed species currently exists - plans to expand
  - This type of work is critical to create a learning environment at the practitioner level
  - Note that using the same words (vocabulary) is not necessary, but it is necessary to have precise definitions of what people are using
    - Interoperability/crosswalks are very important
  - Puget Sound Partnership
    - Grant with EPA to map juvenile data into one standard - support development of data definitions
    - Already do quite a bit of sharing with water quality data
    - Have proposed an additional topic - activity tracking
      - Focus on restoration actions for salmonids
      - Invitation for others to participate - contact Mary Beth Brown
  - Opportunities to engage in aquatic and terrestrial efforts

        - Intention is to support system needs
        - If you are willing to engage on a topic, that is where the work will get done.
    - Northwest Power and Conservation Council
        - 57 subbasin plans across the Columbia basin
        - Going to develop action plans for every subbasin in next year
            - Tie to limiting factors for subbasin plans
        - Will also call for updates to subbasin plans in next year.

V. MECHANICS OF HOW SYSTEMS RELATE TO ONE ANOTHER AS ELEMENTS OF INTEROPERABILITY AND REPORTING

- **Reporting needs and data exchange techniques**
  Presentation:
    - Review of ways we've shared data – from to database extracts to dynamic reports, from interactive maps to web services: what's worked / what hasn't, lessons learned *(Matt Deniston, Sitka Technology Group)*
    - Pros and cons of spatial mapping techniques to show project locations and coverage: using GIS or web services to draw/map a project, strengths and weaknesses to draw project vs. use of latitude and longitude. *(Gina LaRocco, Defenders of Wildlife)*
    - Findings of pre-conference polling: identification of drivers, flows, and social targets of existing systems *(Paul Cereghino, NOAA Fisheries)*

- Work session: Our work session goal was to define an ideal vision of how implementation data could move from on-the-ground actors, into agency databases, and back to leaders and managers as data summary products. With the goal of increasing accuracy and efficiency, we brainstormed specific tactics that are supporting this vision, as well as institutional barriers to reaching this vision. Then we proposed some alternative actions that could most strongly move our collective data system towards providing more efficient and effective services.
    - Think about where you want to be in five years and how do we get there?
        - 1. Clear conceptual strategy definition and evaluation leading to adaptive management (MIRADI)
        - 2. Tracking systems that support planning and prioritization of future projects
        - 3. Data harvesting at conceptual design with a single application for diverse funding sources (HWS/PRISM?)
        - 4. Coordinated and collaborative effectiveness monitoring among programs (within climate and system?)
        - 5. Coordinated outreach around shared data product
    - Input from group:
        - Multiple places for different user groups
        - Common pool of potential projects (similar to college)
        - Talk more about future projects
        - Relational elements that can be linked to other elements, create in such a way that maintenance costs are low
        - Concentrate on developing clear conceptual strategy
        - Social process - need to identify what people will get out of collaboration
        - Technical folks need to reach out to leaders
            - Tie to funding, etc.
            - Need shared understanding of why to do something
        - In improved world, what would managers need?

- Policy people can link to broader, global conservation objective understanding how improving data collection and sharing will benefit agencies (1,2)
- Need to maintain support for research side of things
  - Know about past and future projects in order to tie to watershed scale and population level results and new projects
- Strategy and tracking framework for implementation monitoring
  - Ask group for input how framework and strategy and case studies would help their agency needs
  - This would be a component of NED strategy (see larger strategy)

VI. WRAP UP & NEXT STEPS: WHERE DO WE GO FROM HERE?

➢ Conclusion: next steps for follow up with work group products, and possible survey for new topics for next conference.

Wall Session Overview:

- Identify project team
- Demonstrate the benefits so people want to volunteer
  - Outline use cases to help clarify benefits - relatively little time commitment
- Several project teams in motion that can draw from this experience to inform their work
  - NOAA - NWR & BPA - unified NW action tracking and mechanisms to evaluate what is coming out
  - Simplified applications for the field, streamlined - cbfish.org, Puget Sound Partnership
  - Data harvest process facilitated by open standards crosswalk
- Agreement that the sponsor would consolidate or flag information from many systems (ex. How to identify the same project when it is funded by 4 agencies)
- Want coordination and guidance from the funding community
- Metadata for 'dummies' document - need to make metadata easy
- Categories
  - Small examples are easier to commit to
  - Need to demonstrate business case
  - Example - Paul's program (NOAA Restoration Center) and PCSRF need to jointly report on two metrics, BPA involved in this for BiOp needs - develop demonstration based on this need
    - Test all connection points and validate
    - Who: Russell Scranton, Scott Rumsey, Ben Zelinsky, Paul Cereghino
- The Nature Conservancy/Foundations of Success - help group see effort in context of national efforts
- Managers/policy folks - don't have technical knowledge
  - Draft a short white paper to present to policy makers to make a case

Full Wall Session Notes:

Solutions (in order of highest priority):

- Tools to support multi-partner long-term projects
- Regional implementation strategy and framework
- New does not always equal better
- Communication!
- Build on lessons learned from long-standing systems
- Develop specific pieces - case uses

- New development of systems and planning tools creates impetus for change and openness for coordination
- Common funding application (proposal form common between funding agencies)
- Define end products first
- Common proposal form for multiple funding agencies
- Funding agencies require data management and fund it.
- Identify shared HLIs for action implementation (Columbia Basin, OR, WA, other)
- Focus on common goals and opportunities via clear use cases
- People paid to coordinate
- An interactive map showing projects from ≥ five funding agencies
- Workshop on project prioritization techniques and tools
- Limiting factors and threats maps
- Guidance on 'rapid response' versus detailed physical/biological assessments to identify, prioritize, and implement habitat improvement techniques
- Adoption of agreed upon standards to attain for all projects and reports that show degree of compliance with standards (e.g., CMP open standards and dashboards
- Common/shared search engine that looks across the many tracking systems (requires standard or crosswalk, terminology, categories)
- Bring in public relations/public marketing expertise on design of system early on
- Sharing of data across system
- Funding entities coordinating reporting needs
- Better logic chains to identify goals/objectives/questions which drive both project implementation/selection and effectiveness monitoring (more transparency, written/quantified selection criteria)
- Agree on vision
- Incentives for cooperation need to include 'non-funding' benefits
- Use electronic stickies next time
- Take advantage of existing systems; user friendly tools to share
- Open source products
- Dispersed entities implementing projects creates communication challenges in terms of sharing information and identifying information gaps.
- Communication lines - in part due to workshops like this - are being forged to increase information and data sharing
- Keep to simple, focused pilots with clear benefits to main players
- Allow customization/modification of existing tools to fit other needs as they arise (divest application development responsibility)
- Single populations of projects (not divided by programs) with enough data to support systematic monitoring
- Describe data that has been harvested
- (bottom half) Small, simple data sharing (not long, complex processes)
- Crosswalks and Rosetta stones
- Avoiding duplicate data: data sharing routes formalized (hierarchical)
- www.data.gov

Connections made by Paul Cereghino:

- Unified Northwest Region recovery action tracking:
    - Draft standard limiting factor and threat term and crosswalk
    - Common reporting outputs based on the CMP standards

    - Crosswalks and open standards to allow improved data exchange
    - Web services!
- High quality data harvest at single application point.
    - Shared implementation schedule/preap/database/ format

Challenges (in order of highest impact):

- Willingness to spend money on data management
- Need to define scope and customers
- Linking project tracking to plan implementation, gaps, adaptive management
- Historical/traditional practices and investments limit the potential willingness to collaborate
- Lack of funding for data management
- Desire of policy people to spend money for work 'on-the-ground', not on planning systems
- Lack of clear use cases for data sharing
- Common method for evaluating investment options (e.g. projects)
- Don't know what data is necessary to achieve social outcome
- Avoiding systems proliferation and achieving efficiencies
- Talking rather than doing
- Planning versus doing
- Lack of adherence to project cycle management standards (e.g., clear, measurable objectives, indicators linked to objective, etc.)
- Engage field implementers/project sponsors in process
- Varying priorities
- Increasing public use/utilizing tracking systems to communicate progress
- Funding appropriate projects
- Tracking projects and actions across multiple programs - cost share, avoid duplication
- Wide range of scales (spatial and jurisdictional) that require different approaches (project versus programmatic) to effectiveness monitoring. Approaches require different criteria for project selection/prioritization.
- Funding fatigue (outside Columbia Basin)
- One project in multiple databases
- Digital divide within government and fish and wildlife community
- Interoperability
- Those with innovative and scientifically-credible solutions are not always the best salesmen
- Leadership (can also be a solution)
- Consistent relations of activities to stresses/limiting factors
- Waiting for Perfect
- Landowner confidentiality concerns with feeding a public database
- Getting people to put data into system
- Relating diverse projects to create the big picture
- The Holy Grail of perfect consistency often distracts versus following through on incremental but feasible improvements
- Reporting/tracking 'requirements' versus reporting capabilities and usefulness
- Single species focus hides ecosystem relationships and project relationships
- Tracking the true costs of implementation
- We have not included inconvenient threats (land use, SLR resilience)
- We're all so busy going to meetings that it is hard to hunker down and make real progress
- Strategies that identify uncertainties in logic chains and describe 'opposing currents'
- (bottom half) Older systems not able to use current data sharing technologies
- Basin-wide GIS data (100% coverage) - all species, limiting factors, habitat concerns
- Highly complex data

Workshop Participant List

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