Shared Strategy for Puget Sound
Adaptive Management Steering Committee Workshop
Meeting Summary
January 26-27, 2006 | Discovery Center, Seattle, WA

Day 1: Introduction and Discussion on Adaptive Management Implementation

Steve Yafee and Sheila Schueller presented an overview and history of the adaptive management efforts implemented for Shared Strategy. The focus of the two-day workshop was to refine the strategies, activities, and metrics for the Regional Puget Sound Adaptive Management Plan.

Following the overview, the committee examined different monitoring and research approaches in the Adaptive Management (AM) plans for the Lower Columbia Recovery Plan, Cedar River Sockeye Hatchery, and Battle Creek Salmon & Steelhead Restoration Project, compared to the strategy-based approach for developing metrics being taken by Puget Sound.

Review of Regional AM Documents and Discussion on Implementation Issues

Lauren Ris provided an overview of the draft regional habitat, harvest, and hatchery (the Hs) strategy documents created through subgroup input and review. Some of the metrics in common across harvest, habitat, and hatchery strategies included:

> Funding amount and distribution
> Number of resources to carry forth activities, number of state matched funds, number of information gaps, number of monitoring projects, and number of strategies implemented
> Measures of abundance and population dynamics (e.g. escapement)
> Number of regulatory mechanisms in place and level of compliance
> Level of H integration, amount of information sharing and access
> Level of public awareness and education

The committee conducted a preliminary discussion on metrics and priorities regarding H-integration for the Puget Sound AM Plan, and the following issues were brought forth:

> Adult escapement is one common denominator across the Hs that provides critical information on the condition of fish populations.
> Future funding levels and compliance with legal requirements for salmon restoration can be two measures of integration.
> Cumulative metrics of habitat health - including forest productivity, juvenile abundance, escapement, and landscape indicators - should be considered.
> Adaptive management should answer the question, "How much is enough?" Metrics can be established around reducing uncertainty in policy decisions and informing policy makers on tenable progress.
> Different metrics can detail short-term and long-term progress. Short-term metrics are useful for public outreach and swaying political will, while long-term metrics allow us to maintain a broad perspective.

Habitat, Harvest, and Hatchery Small Group Presentations

Committee members divided into habitat, harvest, and hatchery groups to further identify priority metrics. These results were presented to the entire committee:

<u>Hatchery Presentation</u>

Regional outlook as a priority:
> - Hatchery metrics work recognized three measurement/performance scales: individual hatcheries, watersheds with several hatcheries, and regions.
> - Decisions for hatchery funding are made outside respective watersheds.
> - Tracking hatcheries at a regional scale will assess the cumulative effectiveness of both hatcheries and watersheds.
> - A regional outlook allows greater H-integration across all watersheds.

Priority metrics for the planning and scientific justification of hatchery efforts were identified:
> - Measures of how well hatchery efforts have been planned and scientifically justified
> - Measuring H-integration: percentage of activities incorporated into hatchery strategies and guidelines
> - Pre-release hatchery effectiveness: number, type, and quality of fish released
> - Post-release hatchery effectiveness: juvenile and adult ecological interactions
> - Watershed conservation goals: do hatchery fish properly supplement the natural population (e.g., percentage of hatchery fish on spawning ground, adult spawner size, productivity, are they effectively lessening the risk of natural population extinction)?
> - Hatchery fish contribution to fisheries: meeting angler harvest targets, desired size, etc.
> - Population status and trends: stock assessment (e.g., migration timing, age and size structure, habitat use, spatial distribution, percentage of natural origin recruits, productivity of natural and hatchery populations)

<u>Harvest Presentation</u>

Priority metrics identified:
> - Escapement surveys
>   - o Spatially delineated by habitat type
>   - o Metrics: origin, size, age, and abundance at different life history stages
> - Catch surveys
>   - o Stratification by biologically significant area and time period
>   - o Metrics: size and age composition at different life history stages
> - Fishery Surveys
>   - o Stratified by time, area, and gear type
>   - o Metrics: number and effectiveness of each gear type, compliance with regulations
> - Special Studies and Analyses
>   - o Improve and/or define test fisheries and stock dynamics models
>   - o Profile genetics for each watershed
>   - o Monitor, update, and install tagging and marking programs
> - How do we translate these studies to the public and other policy makers?
> - These surveys are extremely important because they get at the bottom line: how many fish are out there, where are they, and when are they there?

<u>Habitat Presentation</u>

Priority metrics identified by four categories:
- > Watershed activities
    - o Standardize and regularly audit regional regulations.
    - o Assess number of projects addressing watershed goals, amount of funding, number of development permits and activities.
- > Effectiveness:
    - o Monitor projects in such a way to concretely ascertain if desired results are being achieved.
- > Watershed Condition
    - o Assess trends in ecological conditions
        - ▪ Hydrology and channel features: flow regime changes, % in-stream cover available, amount of armored bank removed, amount of side channel habitat reconnected
        - ▪ Sediment: forest road density, number of crossing.
        - ▪ Riparian habitat: percent area of different habitat types, maturity
        - ▪ Marine habitat: amount of tidal marsh restored, amount of nearshore improvements
        - ▪ Population growth: amount of reforested area, amount of road decommissioning
- > Research
    - o Assess whether watershed conditions are producing the in-stream habitat required for salmon (e.g., experiment and monitor within specific watershed sections)

Questions brought up during discussion:
- > How do we make decisions based on empirical data?
- > How do we integrate effective research without waiting too long to make a decision?
- > Should we assume EDT is a valuable tool and wait to see how its results trend over several years?
- > Is habitat being held to the same standard of the other Hs?

Committee discussion on H integration

Following the small group presentations, the committee confirmed the necessity for H-integration for AM Implementation to work. The committee discussed and identified the following issues for effective H-integration:

> H-integration consists of the components and metrics that connect harvest, habitat, and hatcheries and collectively create a monitoring system across watersheds to assess effectiveness of recovery efforts.
> Escapement surveys can be spatially defined by habitat type to better inform assessment and restoration activities. There are some watersheds performing such surveys, but it should be implemented regionally with standard protocols.
> The carrying capacity of a watershed is a metric that integrates the three Hs.
> To implement AM, models such as EDT and others, will be needed so that baseline conditions, current conditions, and trigger points can be compared across watersheds against predicted values. Activities can be changed or modified based on model outputs.
> The recovery plan could be broken into two time scales: 1) 10-15 years, and 2) 15-30, in order to accommodate the need to design information collection techniques and adaptive management implementation.
> Trust will be an essential component in achieving H integration. Each H will need to trust that other Hs are collecting the right information and performing the correct activities. Properly chosen metrics will provide accountability and verify progress.

Discussion on Education and Outreach Strategy

Jeanette Dorner presented successful education and outreach strategies implemented for the Nisqually watershed's salmon recovery efforts:

> To communicate the purpose of your program, be specific about goals and objectives.
> Target habitat work in high-priority areas to capture community interest.
> Implement recovery efforts by fostering the political will of the community and building upon established beliefs.
> Support local and regional leaders so they have a foundation to champion effective salmon policy.
> Create a targeted campaign to involve local people in their watershed (e.g., by using cultural, natural, and economic history).
> Properly educate volunteers so they can be more involved and play a community leadership role in salmon management.

The committee explored the following objectives for a regional education and outreach strategy:

> Broaden support for salmon recovery at the watershed scale.
> Create regional political will.
> Create public investment in salmon recovery.
> Foster changes in individual behavior.
> Build leadership.
> Foster understanding of the three Hs.
> Provide tools to be better stewards, especially on private property.
> Create more informed decisions.
> Communicate the benefits of salmon recovery: It *is* a benefit, not just a cost.
> Provide opportunities for the public to contribute problem-solving ideas.
> Educate entities within the recovery effort (i.e., educate experts in one H on other Hs)

Activities and concepts for outreach and education to consider:
>   Account for generational differences among the public.
>   Create salmon-friendly certifications for landscapers and developers.
>   Create partnerships with "stressors" (e.g., home builder associations).
>   Provide a positive, hopeful message to the public.
>   Use communication and outreach experts to help with public education. Conduct research on successful approaches elsewhere.
>   Combine regional and watershed outreach approaches.
>   Identify public values and tap into them.

The committee explored what defines success in the regional education and outreach efforts:
>   Increased funding
>   Regulatory programs adopted
>   Increased support for salmon programs from all levels of government
>   Solid public support demonstrated through surveys

January 26th Attendees

John Barr
Will Beattie
Richard Brocksmith
Treva Coe
Ken Currens
Jeanette Dorner
Margee Duncan
Kurt Fresh
Andy Haas
Howard Hsu
Jim Kramer
Kirk Lakey
Steve Leider
Sarah McKearnan
Brian Murray
Jagoda Perich-Anderson
Kit Rawson
Lauren Ris
Sheila Schueller
Russell Scranton
Chris Weller
Terry Wright
Steve Yafee

Day 2 - Institutional Structure: Moving to a Regional Focus

Jim Kramer provided an overview of the current status of the Shared Strategy for Puget Sound:

> The Shared Strategy for Puget Sound is in a transitional point, moving from a watershed to a regional focus. Consensus has been reached on the watershed level, and the recovery plan will be adopted in spring 2006 with funding through June 2007.
> Shared Strategy has been tasked with developing the Puget Sound Partnership Action Plans, with the final draft to be adopted by the state legislature in October 2006. The budget will be determined by 2007 to support the salmon and Puget Sound plans.
> The TRT has agreed to continue to provide regional scientific support for at least one year for the Shared Strategy's Adaptive Management efforts. They are hoping for support from watershed and independent scientific groups.

Adaptive Management Institutional Structure Discussion

Steve Yaffee and Sheila Schueller presented the concept of institutional structure for Adaptive Management (AM) and reviewed examples implemented in other organizations. Structural commonalities among these organizations included:

> Classification of leadership, governance, and policy
> A stakeholder-based management group
> A technical working group
> An independent science review component
> Action agencies

Institutional structure success factors included:

> Written agreements
> Timelines with benchmarks
> Clear commitment by political and organizational leaders
> Clear assignment of authority roles (e.g., central staffing, executive director)
> Credibility and legitimacy throughout the program
> Established mechanisms for ongoing broad involvement
> Significant incentives to contribute to the central effort (e.g., funding, peer pressure, common goals)

The committee split into three small groups to craft a working regional Puget Sound institutional structure and presented their results to the entire committee. The three groups largely kept institutional elements presented in the draft example provided, but rearranged them to convey greater communication and feedback throughout the system.

> Modifications to the example institutional structure included:
>> o Develop a science, data, and outreach center: a central database ensuring regional accessibility.
>> o Distinguish differences between science and policy components.
>> o Develop coordination committee between watershed and regional groups.
>> o Integrate hatchery, harvest, and habitat factors that contribute to regional science and policy efforts.
>> o Add tribes, Congress, and state legislature.

Note to steering committee from Chris: I did not find anything in the notes that had to do with a "final" hypothesized institutional structure. Does anyone have anything like that?

Additional issues that need to be addressed in the Puget Sound institutional structure included:

> A regional salmon recovery database does not currently exist. This type of system is essential for carrying out adaptive management plans.
> Leadership roles should pervade all the structural elements, rather than just one component of the system.
> Data collection, monitoring, evaluation, and integration are the most under-funded categories of the system. Increased funding in these areas should be a priority.

In summary, group recommendations on institutional structure included the following (from Brian Murray's notes):

> Watersheds should continue to be the fundamental building blocks of recovery effort.
> Maintain focus on local watershed knowledge.
> Scientific research and monitoring will be necessary at watershed and regional levels.
> Central data management is necessary, but it may not have to be achieved in a brick-and-mortar central location.
> A regional institution should support implementation in each watershed and improve communication across Hs and watersheds.

AM: Coordination, Integration, Capacity Building, Monitoring, and Research

The committee identified four key activities needed to begin working toward regional H-integration:

> Training of habitat, hatchery, and harvest managers
> Development of common predictive models
> Development of common metrics
> Centralized data management

The committee identified the following issues regarding regional H-integration:

> H-integration is the combination of actions being taken across the three Hs that collectively contributes the desired goals and objectives for recovery.
> The goal of integration is to coordinate activities and management of Hs to achieve the population abundance result desired.
> The sequence of actions must be taken into account to effectively achieve integration.
> There is a need to define short-term goals and long-term recovery goals.
> Tradeoffs among the Hs for integration and how to address the tradeoffs will need to be considered.
> An overall goal for integration needs to be clearly communicated. Different entities such as NOAA, TRTs, DFW, and co-managers have their own ideas and expectations for integration. It will be essential to regionally unify these concepts.

Metrics for Effective Integration

The committee recognized that measuring effective integration of strategies is likely to include a mix of **process** and **outcome** metrics (i.e. measures that the activities of an integrated approach are occurring) as well as the longer-term expected outcomes of taking an integrated approach (salmon populations, etc.). Identified metrics of effective integration of strategies at watershed and regional scales included:

- > Trends of smolt production, and escapement
- > Hatchery production levels compared to habitat carrying capacity
- > Biological productivity and fish abundance
- > Relative contribution of strategies to the percent reduction in the extinction risk of a population
- > A survey on trust between co-managers; possibly also measured as degree of compliance or follow-through on commitments
- > Short term goals
- > Identify overlapping data across Hs
- > Terminal and pre-terminal harvest rates
- > Natural and hatchery stock composition on spawning grounds
- > Status of limiting factors
- > Actual rate of recovery versus a predicted rate based on a set of actions for a specified number of years
- > Harvest rates on hatchery and natural fish
- > Hatchery and natural fish interactions at different life stages

Action Items and Next steps

- > The documents and materials discussed at the workshop (draft AM plan strategy-based pieces) will be revised and distributed to the subgroups and then regional groups for broader review.
- > The materials will be revised as a full draft and distributed to the Steering Committee for review.
- > The AM implementation plan is scheduled to be finalized in April with stage 1 implementation beginning in May. The next stage will focus on developing a detailed monitoring plan and identifying resources needs. **Note from Chris: Obviously, these dates have changed.**
- > The committee will continue to meet and refine the plan. Members will be notified of future meeting dates and times.

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