Humboldt Bay Ecosystem-based Management
Advisory Team Meeting Notes – July 13, 2007

Attendance: J. Anderson, D. Ashton, G. Crawford, V. Frey, P. Golightly, S. Hackett, D. Hull, S. Kramer, A. Laird, M. McEnespy, J. Mello, V. Metz, D. Mierau, J. Mooney, J. Neander, E. Nelson, P. Nelson, B. Price-Hall, S. Quackenbush, J. Rice, S. Schlosser, F. Shaughnessy, L. Shikany, M. Wheetley, A. White, M. Wilson, C. Benson, C. VanderMeer, P. Higgins, D. Marshall.

Handouts: updated Advisory Team contact list; EBM program participatory process; Humboldt Bay Watershed Salmon and Steelhead Conservation Plan Chapter VI – Humboldt Bay Watershed Goals and Objectives; Humboldt Bay Management Plan Executive Summary

Welcome by S. Schlosser; introduce facilitator, Craig Benson, Redwood Community Action Agency Watershed Coordinator. C. Benson will facilitate the Advisory Team meetings and ensure we use our time well and assist with creating a framework for this complex program.

Review Agenda: Tasks for first portion of the meeting include creating a working definition for the Humboldt Bay Ecosystem-Based Management Program and delineate working boundary, geospatial extent for the program. After break, presentations by David Hull on the Humboldt Bay Harbor Recreation and Conservation District Management Plan policies and Jennifer Rice on the Humboldt Bay Watershed Advisory Committee Salmon and Steelhead Conservation Plan recommendations; leading into brainstorming of Humboldt Bay EBM issues. Public comments taken after each section of the meeting.

Delineation of Humboldt Bay Ecosystem Working Boundary: 3 break-out groups using base map of Trinidad Head to Cape Mendocino to establish boundary. Thirty minutes to discuss boundary that makes sense for Humboldt Bay EBM used to prioritize projects within this spatial unit – working foundation that can be changed, can use zones of nearshore, bay and watershed environments. One person from each group shared the rationale for their boundary choice.

Group 1: Considered two perspectives, 1) ecological, interaction strengths that influence processes, 2) funding perspective but didn't have enough information to relate this to ecological. Came up with a primary boundary of the Humboldt Bay watershed and the Bay but need more information on water circulation and sediment movement to delineate the lines and secondary boundary to include Eel and Mad River watersheds and ocean area that interacts with Humboldt Bay.

Group 2: Primary zone similar to Group 1, the Humboldt Bay watershed boundary (everything that drains into the bay) 300 m contour in the ocean to define the littoral cell. Secondary zone included the Eel River to the south and Mad River to the north. Specific topics that can justify extending the primary boundary into the secondary include sedimentation, ocean circulation, invasive species. Ocean circulation patterns around contour line into coast make it difficult to exactly define that boundary.

Group 3: Like the idea of zones (watershed, bay, nearshore) for Humboldt Bay ecosystem and other zones that influence it: Humboldt Bay watershed and what flows into the bay, boundary influenced by EBM definition so line could change later, nearshore region using biological/ecological definitions, 3 foot above highest tide level, area of influence included littoral zone and surrounding watersheds that have influence, influence of economics are far outside of the area

Common boundaries between the groups includes nearshore, estuarine, watershed with zones of influence of primary, secondary and tertiary management units. Sub-group to refine map into working boundary: Jeff Anderson, Pete Nelson, Darren Mierau, Becky Price-Hall, Sharon Kramer, Paula Golightly, Diane Ashton, Aldaron Laird, Greg Crawford.

Definition of Humboldt Bay Ecosystem-based Management: each person crafted their definition, all were posted for a gallery tour and refinement of individual definitions. Five definitions were identified as capturing the basis of a Humboldt Bay Ecosystem-Based Management working definition. The Core Team will combine these five and include selections from the others to come up with a working definition.

1. Ecosystem-based management is a strategic approach to managing human activities that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities. The process is intended to be adaptive as knowledge and functions change. The intent is to repair, maintain and/or enhance those spatial, temporal and biological characteristics and processes of whole ecosystems such that component species and human social, economic, and cultural activities can be sustained.

2. Humboldt Bay ecosystem-based management considers cumulative impacts and is a goal driven strategic, collaborative approach to managing human activities that encourages the coexistence of healthy, productive and resilient ecosystems and human communities through the integration of ecological, economic and social principles.

3. The goal of EBM is to restore and conserve the health of ecosystems, including associated human communities, with the proviso that human activities do not degrade ecosystem functions. Geographic boundaries of the ecosystem are based upon how strongly physical and biological components of the environment interact, not by political boundaries or by focus on a particular species or habitat. Management *recommendations* are based on the best available science, and those recommendations must be responsive to further monitoring and research. Management *decisions* are based on the combination of science recommendations and the needs of all members of the human community that are part of that ecosystem. Public input identifies those needs and is continuously updated.

4. Management must be driven by the local community, adaptive and based on strong science. The objective of EBM is to maintain ecosystem function including human activities, recognizing that these activities are a part of the Humboldt Bay ecosystem but striving towards restoring or maintaining natural resource for a broad range of interests.

5. An ecosystem approach to management is geographically specified; adaptive; takes account of ecosystem knowledge and uncertainties; considers multiple external influences; and strives to balance diverse societal objectives. Implementation will need to be incremental and collaborative. Ecosystem approaches to management encourage decisions based on environmental, social, and political factors. (NOAA's Ecosystem Goal Team website)

Additional Definitions

A collaborative and dynamic management approach which safeguards the health, diversity, productivity, sustainability and resilience of ecological, economic and social factors and is informed by hypothesis-based monitoring.

Ecosystems-based management is focused on assessing human influence and activities; to enhance physical, biological and socioeconomic processes, functions and values.

Management for the overall health of the Humboldt Bay Ecosystem that integrates ecological, social and economic principles in order to maintain and manage the health of the whole while insuring the same for the parts; requiring balancing and integration of the many, diverse ecosystem components.

A collaborative process that encourages: integration of ecological, social and economic factors for tangible management decisions; promotes sustaining, protecting and restoring ecosystem functions, processes and structure; acknowledgement of the interconnectedness of the watershed, bay and ocean. This process is applied in a geographically specified area defined by ecological boundaries.

Blend of Wood (1994) and ESA (1996) PLUS - continuing stakeholder and public involvement.

Ecosystem-based management is an integrated approach to management that considers the entire ecosystem, including humans. EBM focuses on the multiple activities occurring within specific areas that are defined by ecosystem rather than political boundaries. The goal is to restore and maintain the health of ecosystems while supporting economies and communities.

Ecosystem-based management is an integrated approach to management that encourages consideration of the entire ecosystem, including humans. The goals of ecosystem-based management are to maintain an ecosystem in a healthy, productive and resilient condition so that it can provide the services humans want and need. Ecosystem-based management differs from current approaches that usually focus on single species, sector or activity or concern; it considers the cumulative impacts of different sectors.

Combination of McLeod et al (2005) and Interagency Ecosystem Management Task Force (1994)

Integrated management within the defined ecological boundary of all living and non-living components and those factors that influence these components; including physical, biological, social, and economic (and political?) interactions.

Humboldt Bay Ecosystem-based Management is an integrated approach to managing human activities, and sustaining or restoring ecological systems in a healthy, productive, and resilient condition.

EBM is an integrated approach to management that considers the entire ecosystem, including humans. The goal is to maintain an ecosystem in a healthy, productive and resilient condition. EBM is driven by explicit goals, executed by policies, protocols and practices, and made adaptable by hypothesis-based monitoring and research based on our best scientific understanding of ecological interactions, structure and functions.

Ecosystem-based Management for Humboldt Bay is management based on the goal of protecting, maintaining, enhancing and restoring the bay's marine ecosystem for its ecological values while sustaining appropriate human uses. To support this management goal, research and monitoring programs must be conducted to fully understand the ecological interactions and processes that sustain a healthy marine ecosystem while recognizing the human component within this ecosystem.

Ecosystem-based management is an approach to manage human activities and natural processes to enhance and sustain ecosystem functions and values.

The goal of EBM should focus on the ecosystem as a whole, with a willingness to understand and define the complex interactions of the parts of the whole. To accomplish this it will be necessary to redefine how we interact, and influence these parts.

A method for sustaining or restoring ecological systems and their functions and values for the Humboldt Bay Ecosystem. It is goal driven and it is based on a collaboratively developed vision of desired future conditions that integrates ecological, economic and social factors. It is applied within a geographic framework defined primarily by ecological boundaries.

In order for Ecosystem Management to be more than a platitude, a solid scientific understanding must be developed and then management must be adapted to decrease anthropogenic sources of stress. The wisest path (and likely most successful) is to move the watershed and bay ecosystem back closer to the normal range of variability with which its organisms evolve. While scientists can't control management, they need to provide an accurate and honest scientific framework and educate the public.

Ecosystem-based management (EBM) for the Humboldt Bay will provide a scientifically based strategic approach to management of human activities and 1) ensure sustainable use of resources, 2) maintain or restore ecological systems and their functions in a healthy, productive and resilient condition. EBM is goal driven, and is based on a ----- developed vision of desired future conditions that integrate ecological, economic and social factors. EBM is applied within a geographic framework defined primarily by ecological boundaries and the physical processes that influence them.

EBM attempts to manage an entire ecosystem based on a systematic definition of that ecosystem. Management of that ecosystem for a human agenda encompasses all sectors of the ecosystem users and their impact on that ecosystem.

The primary goal of EBM is to maintain (or restore) the health of an ecosystem. The ecosystem necessarily includes all living and non-living resources. Taking this into account it seems we should take as holistic approach as is realistically possible; create an outline based on the best available science and information, and then seek tangible result oriented projects. Adaptation and monitoring results must be part of the process as well.

BREAK

Recap of first portion: Subcommittee will combine maps into working boundary for Humboldt Bay EBM. Core Team will use five identified definitions and sections from other to refine Humboldt Bay EBM definition.

Introductions/Public Comments: Carole VanDemeer, Friends of the Dunes, interested in the human influences on geospatial area. Pat Higgins, fisheries biologist – consultant, KRIS software is established database of upland conditions

Presentations: S. Schlosser explained that the plans are the foundation for consideration of Humboldt Bay EBM issues

David Hull, Humboldt Bay Harbor, Recreation and Conservation District CEO, gave an overview of the process for developing the Plan. The District started with an Interagency Coordination Commission that established the need for mapping Humboldt Bay and the Management Plan. The Humboldt Bay Management Plan Task Force, comprised of agency, land managers and stakeholder representative, developed the Plan

Mission Statement: The Humboldt Bay Management Plan provides a comprehensive framework for balancing and integrating conservation goals and economic opportunities in a cooperative manner for the management of Humboldt Bay's resources.

Planning Boundaries: 1) Plan Boundary – district regulatory jurisdiction, mean high water; 2) Sphere of Interest – former tidelands; 3) Watershed boundary

The process was a bottom up planning effort with community involvement from the beginning. The Task Force held seven stakeholder meetings for public input, made presentations at Humboldt Bay Symposiums and civic organizations. Several drafts of the Plan incorporated the public input from these meetings; the CEQA process involved additional public outreach.

Policy Elements of the Plan include; 1) harbor (39 policies), 2) recreation (39 policies), 3) conservation (26 policies).

Plan focus areas: 1) Arcata Bay, 2) Entrance Bay, 3) South Bay

Jennifer Rice, Redwood Community Action Agency Natural Resources Division, discussed the development of the Humboldt Bay Watershed Advisory Committee Salmon and Steelhead Conservation Plan. The process was planning by committee.

Mission Statement: Improve the watershed's anadromous salmonid populations and related resources while considering regional ecological and socio-economic needs

Long-term goal was to maintain and restore habitat favorable to salmonids at all life stages. This is an action plan, not an implementation plan.

Goals and objectives address: 1) habitat structure; 2) water quality; 3) water quantity; 4) cumulative watershed effects, 5) salmonid population studies; 6) coordinated monitoring; 7) education collaboration and incentive program; 8) Plan effectiveness and coordination - prioritize actions for implementation and desired outcomes. After the plan was finished, the "Project Priority Criteria Guide" for planning projects was developed. Next phase includes working with private landowners on restoration projects, permit streamlining.

S. Schlosser explained that the Humboldt Bay EBM Advisory Team will review the Plans policies/recommendations to develop projects for implementation. The project proposals will involve additional collaborators beyond the Team members.

Brainstorming Humboldt Bay Ecosystem-Based Management Issues: C. Benson explained that this was a data gathering session without discussion; all members and the public present their ideas.

- Loss of timber and agriculture land to development with secondary results
- Better linkage, holistic management of watershed and tributary sediment
- Better understand of circulation modeling, tidal and sediment movement
- Invasive species, pathway and the influence on native species
- Water quality – identify sources, pathways
- Urban runoff, storm water pollution; ways to deal with it – Storm Water Coalition
- Humboldt County General Plan update and how land use/development will influence the bay and watershed (Tom Hoffweber, J. Miller)
- Economical and ecological justification for tideland restoration
- Coordination with ongoing projects, planning efforts and future projects
- Ecological economics – value of goods and services; understanding flow of Advisory Team efforts to regulators
- Trophic level interactions; environmental predictability and climate change; habitat function for key species
- Restoring former tidelands - inventory and prioritize sites; identify regulatory jurisdictions, generic impact analysis; develop mitigation measures for programmatic EIR and biological opinions
- Sea level rise and climate change; MLPA process in northern California
- Land use and transportation planning effects on the bay; public education needed regarding land use planning and effects on the ecosystem; incentives for ecosystem approach and good stewardship for private landowners
- Relationship between watershed suspended sediment and bay primary and secondary productivity; salinity and temperature in relation to bay circulation
- Better understanding of topography of land behind dikes in order to restore tidelands; use information to establish cost effectiveness of projects
- Expand on bathymetry of bay; better understanding of transport processing in the bay; understanding nutrient fluxes, sources, sinks and cycling in the bay
- Ecological and environmental factors affecting fish populations
- Regional model for sea level rise, infrastructure and property at risk
- Positive cumulative effects of restoration, desired outcome and future conditions of bay; encourage public participation for actions
- Loss of tidelands and tidal habitat along the edge of the bay due to development; alternative energy projects; transportation alternatives with link to climate change and sea level rise along the bay, alleviate fossil fuels
- Identify quantitative and qualitative key habitats, reference habitats for protection; improper use of wildlife areas and the effects, need funding source to police use
- Social and environmental justice issues around the bay
- EBM framework needs to be well articulated and understood by community
- Address regulatory conflicts and consistency, crossing jurisdictional boundaries; policies that result in negative impacts to ecosystem, ie conversion of productive resource areas to development, Williamson Act
- Effects of recreation on ecosystem; develop database of all projects
- Establish regulatory power to make changes, proposal for reviewing regulatory overlap and jurisdictions
- Develop conceptual model to help visualize relationships
- Need for outreach (S. Schlosser stated that two public meeting are planned, one in October and one in April at Humboldt Bay Symposium
- Water quality – temperature, salinity, sediment, nutrients, coliform, toxin concentrations and source; better understanding of contaminated sediments

- Estuarine restoration plan / strategy
- Encourage stewardship by providing access to land around the bay; promote appreciation of outdoors; east impact to sensitive areas by providing access to additional areas; include component in new development
- Roles of other groups – HBWAC, STANCE – in relation to Humboldt Bay EBM; organization (not agency) to protect common interests/values of community
- Articulate discussions to interest public, use of art to communicate ecosystem – different base to protect resource, youth oriented
- Air quality effects, coordination of all entities involved – one-stop shopping
- Outreach to land use regulators
- Ag Extension agents, NRCS, RCD to reach different audiences
- Forestry representative, wider representation
- Storm water treatment at wastewater plants, data gap related to elements that flow through treatment facilities into the bay and their adverse effects
- Promote kayak access – water trails
- Invite speakers for specific topics – County representative to discuss General Plan overview; support for policies that protect and benefit Humboldt Bay
- Wave/ocean energy generation and aquaculture effects; designation of critical habitat for tidewater goby
- Outreach to businesses selling invasive plants

Next Meeting Agenda Items:

- Sheila Seamans, Coastal Conservancy, will explain OPC proposal guidelines and process
- Subcommittee will present refined boundary map
- Core Team will discuss Humboldt Bay EBM definition
- Core Team Humboldt Bay EBM issue categories developed from brainstorming

Members agreed that Advisory Team meetings will be held on the 2nd Friday of each month

Process Evaluation:

Pros	Cons
Facilitator	Shorten meeting time, 8:30 – 11:30
Presentations	Develop future agendas, framework timeline
Meeting prep materials and assignments	
Online discussion group	
Break-out groups, but limited	
Brainstorming	
Location	

Homework: review, categorize and prioritize issue list

NEXT MEETING: **August 10, 8:30 – 11:30, Humboldt Area Foundation**