CSMW Workshop Series
Resource Protection Guideline Development
Related to Coastal Regional Sediment Management

WORKSHOP #6
14 JULY 2010
10:00 AM – 3:00 PM
HUMBOLDT BAY RECREATION & CONSERVATION DISTRICT (HBRCD)
EUREKA, CA

WORKSHOP OBJECTIVE

"Information exchange and transfer; identify sediment management issues of concern relative to Bays/Lagoons, Beach/Dune and Nearshore habitats and Commercial Fisheries; obtain input on resource protection guideline development considerations for these habitats. Review relevant sections of Section 6 of draft BIA Document pertaining to Bays/Lagoons, Beach/Dune, and Nearshore habitats."

Note: Agenda and PowerPoint presentation were posted to CSMWs web site (http://www.dbw.ca.gov/csmw/BIA_workshop.aspx).

AGENDA AND DISCUSSION

1. Introductions and Background – Clif Davenport and Karen Green

- Introductions of those in attendance and calling in/via webinar
- Review of workshop objectives and agenda

❖ **Background**

- Review of Agencies and Individuals Involved in Development of Resource Protection Guidelines
  - Sponsor Agencies
    - California Sediment Management Workgroup (CSMW)
      Co-Chairs: USACE and CA Natural Resources
    - Monterey Bay National Marine Sanctuary (NMS)
  - Contract Agencies
    - Beach Erosion Authority for Clean Oceans and Nourishment (BEACON)
    - USACE, Los Angeles District (Moffatt & Nichol contract)
  - Project Manager/Moderator
    - Science Applications International Corporation

- CSMW Mission Statement and Goals

  - MISSION

    Conserve, restore, and protect California's coastal resources by developing and facilitating regional approaches to managing sediment imbalances.

  - GOALS

    1) To reduce shoreline erosion and coastal storm damages;
    2) restore and protect beaches and coastal habitat by restoring natural sediment supply from rivers, impoundments and other sources to the coast; and
    3) optimize the use of sediment from ports, harbors, and other opportunistic sources.

- Regional Sediment Management (RSM) in California (CA)

  - CA Coastline is divided into littoral cells.
  - Sand has historically been impounded by Dams.
  - Sediment bottom line: The natural sediment supply to the coast has been reduced due to sea cliff armoring (20%), dams and debris basins (Santa Maria River, 68%; Santa Ynez River, 51%; Ventura River, 53%; Santa Clara River, 27%)
  - The road to solutions: CSMW is working to identify sediment-related problems due to dams, debris basins, dredging, sand and gravel in-stream mining, coastal structures, lack of project coordination, and inconsistent policies, procedures, and regulations. All operations need an environmentally safe approach.

- BIA Study & Workshop History

  - CSMW held 8 public and 3 technical workshops in 2004 to gauge public's issues of concern related to biological resources in regional sediment management.
  - Based on response, CSMW commissioned Biological Impacts Analysis (BIA) study, which is titled "Review of Biological Impacts Associated with Sediment Management and Protection of California Biota."
  - The document was reviewed by agencies and scientists over a two-year period with overall favorable response.

- Comments included requests to provide additional guidance relative to protection of coastal resources, which was the impetus of the current effort and workshop series.
- Today's workshop is the 4th in a series of 7, which are listed below.
    1. 2/18/10 Long Beach: Guideline Development and Agency Coordination.
    2. 2/24/10 Sacramento: Water Quality, Water-Sediment Resource Protection in Watersheds, and Resource Protection in Managed Areas.
    3. 6/16/10 Carlsbad: Habitats and resources associated with Sandy Beach, Dune/Strand, and Sandy Subtidal.
    4. 7/1/10 Moss Landing: Habitats and resources associated with Rocky Intertidal, Rocky Subtidal, Surfgrass, and Kelp Beds.
    5. 7/13/10 Oakland: Habitats and resources associated with Bays, Lagoons, and Eelgrass.
    6. 7/14/10 Eureka: Habitats and resources associated with Bays/Wetlands and Commercial Fisheries.
    7. 8/4/10 Orange County: Impact Assessment, Monitoring, and Database Tools.

❖ Work Products

- BIA Study: draft report will be finalized early next year based on received review comments and input received during the workshop series.
- Abbreviated User's Guide: will provide condensed version (key topics) and cross-references to BIA report and the developed Resource Protection Guidelines.
- Work Plan: received recommendations or suggestions that would require additional or separate work efforts will be summarized in an action plan.

❖ User's Guide and Resource Protection Guideline Organization

- Primary objective is to provide streamlined version of the BIA document that will be of practical use to variety of end users.
- The document will include overview summaries of sediment management activities, project types, impact issues by project phase, monitoring, and performance evaluation.
- The guide will be habitat-based and presented with a flow path approach (resources, impact issues, protective measures, monitoring considerations).

- Resource Protection Guidelines will include the following types of information: issue statement, guideline description, rationale, references (as applicable), and effectiveness considerations.
- Cross reference tables will be provided that organize guidelines by habitat, species group, impact type, project phase. In addition, a cross reference table will be provided to the BIA document for more detailed discussions of relevant topics.

➢ Comments or Questions:

a. Have you made the determination that the Northern CA beaches are suffering from sediment deficit as they are in Southern CA? *Response:* Not in general. For example, Samoa Beach has been losing sediment for the most part but not as much as in Southern CA?

b. Are the Academic or Agency reviews from the past available on the website? *Response:* No, would need to consider further regarding whether they will be posted.

c. What is mandate for this study? *Response:* USACE agreed to a mandate through the CA Sediment Master Plan in 1999.

d. Are the Environmental Guidelines developed here envisioned to be implemented in accordance with agency guidelines/guidance already in place for environmental monitoring and regulation of beach related projects? *Response*: We don't have regulatory authority to do this. These are intended only as guidance.

e. Will USFWS be involved? *Response:* They are not formally part of CSMW; however, they reviewed a section of the report and are part of the workshop process.

f. It is important to include local agencies, municipal and county planning departments. Most counties have mining ordinances that may be relevant. Agriculture and runoff also are issues.

g. May not want to restrict to coastal access counties because of access restrictions. There also must be municipal outreach too because the plan footprints often extend beyond county boundaries.

h. For workshops, the more notice you provide the better for increased participation.

i. North Coast doesn't have the governance structure such as BEACON etc. so more support is likely needed in Northern CA for implementing this guidance. North Coast committee was recently formed and has shown interest in Eureka RSM Plan.

j. Is there expectation that these guidelines be translated to the Coastal Use Plan? *Response:* No, there's no commitment to do this but the public will have the chance to review and comment.

k. Do you want input on the Habitat Table? *Response:* Yes, input is requested. *Comment:* There's a long kelp bed along the outside of the harbor. Would that be classified as a kelp bed under this program? *Response:* Yes. *Comment:* Tidewater Goby, Long Fin Smelt should be included.

2. Bay and Lagoon Habitats

- Topics
  - Issues of Concern, BMPs, Mitigation Measures, Identify guideline topics of particular interest, Discuss guideline considerations to improve resource protection of beneficial uses, Identify critical data gaps.

- Habitats of Concern
  - Sandy Beach, Tidal Flat, Soft-Bottom Subtidal, Eelgrass Meadow, Kelp Bed, Rocky Rip-Rap, Marsh Wetland, Dune.

  - Comments or Questions:
    - Other habitats or areas of interest that apply to Humboldt Bay include: Tributaries, Inlets, Brackish/water interface, sloughs, Islands, Rocky intertidal, Pilings/wharves, Archaeological shell middens, Oyster rafts

      a. In Humboldt Bay there are many estuaries and tributary connections where tidewater gobys are present and there are much more estuarine environments than SF Bay.

      b. Islands support rookery habitats.

      c. There are lots of pilings and old wharves. Shellfish mariculture is present. Not many shellmounds but lots of long line oyster cultures, including floating oyster cultures. Lots of sloughs in Humboldt Bay.

- State/Federally Listed Species of Special Concern
  - Various species including: Black, white abalone; California clapper rail, Least tern, western snowy plover, Marbeled murrelet, xantus's murrelet, Belding's savannah sparrow, salmonids, green sturgeon, longfin smelt, Delta smelt, grunion, Pacific herring, Dungeness crab, sea otter.

- Comments or Questions:

  a. Add Eulachon (Camelfish smelt) that historically used Bay Tributaries but not anymore. Also add coastal cutthroat, tidewater goby, Pacific black brant, Stellar sea lion and harbor seal. Other managed species such as northern anchovies, halibut, lamprey, rockfish, Washington clams, gaper clams also should be considered.

  b. Suggest change in terminology from resource "constraint" to "concerns". This terminology stems from communication issues between resource agencies and the SF District. Different concerns are upheld differently between Humboldt Harbor and the SF Bay based on work windows, which impacts monitoring requirements, etc.

  c. Will plants be included? *Response:* Yes, kelp, eelgrass, surfgrass, and invasive species (e.g., *Caulerpa, Undaria*) are addressed.

- Sediment Management Activities
  - Maintenance Dredging or Excavation

    (Dredge Site, Discharge Site).
  - Beneficial Reuse

    (Beach Nourishment, Shoreline Protection).
  - Coordination

    (SF BCDC, USACE, EPA, Resource Agencies, State Lands, CCC).

- Comments or Questions:

  a. Other coordinating agencies include Harbor Districts, RWQCB.

  b. What does Humboldt Harbor do with their dredge material? *Response:* USACE sends it to main channels outside littoral zone after testing and approved for ocean disposal.

  c. In Crescent City sand is placed south of harbor to nourish south beach. If material is not suitable for littoral disposal, it is placed in upland site. This relates back to the 80/20 rule, where material must consist of at least 80% sand to be placed as beneficial reuse in a nearshore (seaward of closure depth) or beach environment.

  d. Corps will be performing a pilot nearshore program (dredge material management plan - DMMP) very close to the beach directly north of north jetty at Humboldt Harbor in approximately 40 ft of water. This is a beach replenishment pilot project that has not yet had a public process. Need for this study stems largely from

concerns fishermen have of sediment dredging/placement and effects on resources.

e. USACE pilot demonstration project at Noyo Harbor included nearshore placement – public process – Online on USACE website.

f. Wildlife Refuge has been coordinating with Corps for using sediment from channels to raise elevation in subsided marshlands in Humboldt Bay.

g. Sand Island was created from dredged material – nesting island.

- Potential dredging impacts include direct effects of sand removal and operation of equipment (e.g., remove invertebrates and habitat, entrainment); indirect effects such as disturbance, noise, turbidity, and sedimentation; and potential for accidental contaminant leaks and spills.

o Eelgrass

➢ Issues of Concern:

- Sedimentation, disturbance, turbidity

➢ Protection Considerations:

- Avoid construction in eelgrass meadows.
- Prepare anchor, dredge, and pipeline plans to avoid or minimize potential disturbance near eelgrass.
- Minimize reduction of near bottom light levels to <20% of surface irradiance. Avoid <20% of surface irradiance for period greater than 2 weeks.

➢ Comments or Questions:

a. Exotic eelgrass issues are present in Humboldt Bay.

b. Are there specific monitoring requirements in Humboldt Bay for eelgrass? Response: It must be monitored and mitigation requirements vary. Follow-Up Note: Vicky (DFG) will check for relevant project examples.

c. Sedimentation is a large problem in Humboldt Bay and management of turbidity is primary measure for protecting eelgrass during dredging or other projects.

o Invertebrate Recovery

- Studies indicate that time associated with invertebrate recovery are rapid for frequently disturbed navigation channels (~1-6 months) and slower for areas infrequently disturbed.
- Recovery may be enhanced if:
  - Minimize change to bathymetry and hydrodynamics.
  - Minimize change to substrate characteristics of dredge and discharge areas.
  - Avoid stockpiling of dredged material below the ordinary high water line.

➢ Comments or Questions:

a. The USACE dredge, maintenance dredging operates March through May and if needed to complete, late August-September (either Aquinas or Essayons) . Maintenance dredging conducted annually of channels and bar.

b. Outmigrating salmonids are biggest concern.

c. Individual marina & docks dredges as needed – every 5 to 8 years. Waterfront maintenance by Harbor District & City of Eureka. Clamshell or hydraulic dredges used.

d. Enormous amount of material removed each year (1-2 million cy). Sediment changes described in 2004 paper. However, sediment circulation poorly understood in Humboldt Bay.

e. Is monitoring done for invertebrate recovery? *Response:* Based on assumptions made prior to activity (e.g., if effects of a turbidity plume are greater than expected, more monitoring may be required). Vicky (DFG) noted that an invertebrate recovery study was conducted in the 1980s.

f. Diane (NOAA) noted that recent monitoring of turbidity plume was conducted with ADCP (acoustic Doppler current profiler), but no calibration with total suspended sediment.

g. Eelgrass reports and current monitoring reports from Samoa Beach for placement of sediment are available but unfortunately they did not have enough analysis of the survey findings themselves (i.e. detailed description of turbidity calibration measurement and impact on invertebrates).

h. Would like see more consideration given to project design to reduce the need for dredging.

i. There is much interest in facilitating recovery of invertebrates and developing guidelines that will not only protect them but increase recovery time.

j. Structures and docks and marinas can act as sediment traps. Their impacts on sedimentation and sediment budgets need to be included in the RSM plan for Humboldt Bay.

k. A pilot demonstration study is looking at the width of the beach and how the width definition impacts invertebrates during project implementation.

l. Regarding minimization of change to substrate, it seems that large-scale maintenance dredging has potential to affect substrate. But this depends on sediment profile, if grain size doesn't change greatly with depth then no large substrate changes would be expected. Corps reports are available discussing changes in substrate for different channel deepening projects.

o Dungeness Crab

- Issues of Concern
  - Damage, entrainment, and sedimentation

- Resource Protection Considerations:

  - Limit to environmental work windows in areas where there is breeding or recruitment concentration
  - Prepare anchor, dredge, pipeline plans to avoid disturbance near eelgrass habitat areas.
  - Use measures to reduce turbidity and sedimentation near nursery areas (i.e. silt curtains, operation controls)

➢ Comments or Questions

a. They're a species of concern for the bay. There is interest in potential entrainment effects; dredge needs circulation at start up. Corps to conduct study of entrainment.

b. No subject to environmental window.

c. There are much more dynamic longshore currents here than in Southern California and so presence of the Crabs is influenced by this seasonally.

o Green Sturgeon

- Issues of Concern
  a. Disturbance and forage reduction

- Resource Protection Considerations:

  a. Coordinate with NMFS if within critical habitat.
  b. Minimize changes to hydrodynamics and substrate from dredging to promote benthic recovery.
  c. Avoid dredging near inlets during migration to spawning grounds.

- Comments or Questions:

  a. David Woodbury (NOAA) office will be preparing a guidance report on Green Sturgeon mitigation for Humboldt bay
  b. They arrive in Bay between June and October, but not for spawning, mainly feeding. Mainly migrate downstream from Sacramento in schools. They concentrate mainly in North Bay. Occur in groups, but unknown if they enter bay in schools. NOAA will be tagging Sturgeon in Sacramento and hopefully more information can be gained on their migration patterns toward Humboldt Bay.
  c. Inlet closing in terms of restriction of migration is not a large issue because green sturgeon do not spawn in tributaries.
  d. Mendocino County – rivers drain directly to ocean – inlet maintenance perhaps a concern there.
  e. Noyo Harbor – place sand by 10-mile river – closes in summer, breaches in winter – could be concern if too much sediment placed near inlet. Also rocky reefs are nearby.
  f. Entrainment is a concern during dredging.

o Salmonids

- Issues of Concern
  a. Entrainment, sedimentation, turbidity, noise, and lights

- Resource Protection Considerations:

  a. Schedule within approved environmental work windows
  b. Avoid hydraulic pumping operations if cutterhead within 3 ft of seafloor.

c. Avoid night-time dredging in outmigration areas.

d. Shield lights in areas of salmon migration.

e. Minimize sedimentation and turbidity of eelgrass meadows used as nursery habitat.

f. Maintain open inlets to tributaries.

- Comments or Questions

  a. Salmonids are a large concern for Humboldt Bay.

  b. Must abide by environmental windows to avoid potential outmigrants. Work done in summer-early fall.

  c. Change "maintain open" inlets to "do not obstruct" tributaries.

  d. Hopper dredge overflow done to maximize economic load – contributes high turbidity. Cycle time between dredge and disposal site may range from 45 minutes to 2 hours.

  e. Before channel deepening was done in Humboldt Bay, economic loads were of less volume thus more cycles were required to complete dredging.

  f. Tidal circulation is good in bay with complete flushing within 24 hours. Tide stage important consideration when working near eelgrass.

  g. A good reference paper (provided on CD by Susan) describes similarities between dynamics and sedimentation of Humboldt Bay and Morro Bay.

o Pacific Herring

- Issues of Concern
  a. Damage, sedimentation, and turbidity

- Resource Protection Considerations:

  a. Schedule within approved environmental work windows.

  b. Minimize sedimentation and turbidity of eelgrass meadows and other spawning sites.

- Comments or Questions

  a. Individual projects typically done in early spring/late fall to avoid species of concern.

  b. Silt curtains and outgoing tides used to control turbidity.

c. Eelgrass beds present in all channel edges, so turbidity from dredging near docks could be impactful.

d. Paper by Griffen et al. on effects of suspended sediment on herring egg/larvae development– effects thresholds 250 mg/L. Vicki (DFG) will provide copy.

o Least Terns

➢ Comments or Questions

a. Least Terns are not a concern in the Humboldt Bay region.

o Snowy Plovers

➢ Issues of Concern:
- Disturbance and turbidity

➢ Resource Protection Considerations:

- Schedule outside breeding season if within 1,500 ft of nest sites
- Consult with FWS if project area within critical habitat, supports nesting, or overwintering
- Use measures to minimize invertebrate recovery
- Maintain ambient noise levels (<60 dB near nests)
- Direct or shield light away from nest sites

➢ Comments or Questions

a. Nest at South Spit, clam beach.

b. Snowy plovers may be issue if beach nourishment is included in RSM plan.

- Smelts

  - Comments or Questions

    a. Longfin Smelt have been caught in freshwater slough, freshwater creek, tributaries to Bay and in estuarine portions. Adults caught in Bay. We don't have a thorough understanding of species in this area and we haven't issued any incidental take permits yet. Have to pay more attention during spawning times and when outmigration is occurring.

    b. Biological assessment was done by Chevron recently that could be sent. *Follow-up Note:* Check with Adam (HBRCD).

    c. DFG requires applicant to conduct assessment of impacts and likelihood of take.

    d. Longfin smelt were recently caught in eelgrass beds.

    e. Project phasing may be important for not impacting.

    f. Do not obstruct tributaries.

- Marine Mammals

  - Issues of Concern:
    - Disturbance and turbidity

  - Resource Protection Considerations:

    a. Minimize turbidity and sedimentation.

    b. Minimize use of construction equipment within 1,000 ft of seal haul-outs.

    c. Buffer distance to attenuate noise <60 dB or ambient near concentrated areas.

  - Comments or Questions

    a. There are haul out sites in Humboldt Harbor.

    b. Long Beach NMFS office handles a lot of the marine mammal impacts. Monica DeAngeles in Long Beach office issues take permits.

c. Oyster harvesting – has been limited by time of year considerations near haul outs.

d. In Crescent City Harbor, do sea lions haul out on rocks? *Response:* No impacts were seen in the winter from Corps dredging last fall.

e. In Arcata Bay there are a couple haul out sites in the North Bay and South Bay.

- Water Clarity

  - Comments or Questions

    a. Water clarity with respect to eelgrass beds is likely of greater importance for Humboldt Bay.

    b. No monitoring of turbidity is associated with Corps dredging of Humboldt Harbor. Dredge cycles and overflow volumes are monitored.

    c. Crescent City RWQCB permit – monitor upland pond used to reduce turbidity, also monitor nearshore when do beach placement.

  - Other Comments or Questions

    a. Rockfish are considered under EFH assessment. Potential for sedimentation may be an issue if activity occurs near rocky substrate.

    b. Crescent City has monitoring requirements for deposition of sediment on upland sites as well as offshore sites.

3. Beach and Nearshore Habitats

- Topics
  - Habitat Functions and Species of Concern, BMP's/Mitigation Measures including Benefits and Impact Issues

- Potential Nearshore Placement Impacts
  - Habitat Burial
  - Dredge damage (Anchors, chains)
  - Noise, lights
  - Turbidity
  - Sedimentation
  - Accidental spills

- Comments or Questions

  a. Sedimentation more of an issue than turbidity and equipment damage.

- Live Bottom Fisheries

  - Issues of Concern:
    - Disturbance, gear loss, and habitat degradation

  - Resource Protection Considerations:

    - Coordinate with local commercial fishing organizations to better understand local fishing patterns and to identify appropriate measures to minimize interference with fishing activities.

  o Comments or Questions

    a. Offshore energy development and Marine Life Protection Act (MLPA) area closures and boating restriction are of concern.

    b. Humboldt Harbor has a historically dangerous sandbar for boating.

    c. Crescent City fishermen have perception that dredged material disposal offshore attracts crabs.

    d. Humboldt Bay fishermen fish at Hood ocean disposal site.

    e. Humboldt Harbor has an increased cost of boat slips via taxes, which in turn funds dredging operations of the channels, benefiting the boating and fishing industries. Fishermen support dredging.

    f. Water Quality Control Board Region 1 considers dredge material as waste.

    g. In Crescent City, the 80/20 rule is important in determining if sediment can be placed nearshore or has to be placed upland, as most often sediment is placed upland due to not meeting the 80% sand requirement.

    h. CSMW completed Tijuana River Study and placed sediment nearshore (about 60% sand; 40% silts) to measure impacts of placement of finer grained material – results should be out soon.

    i. Placement sites are important and a huge issue at Noyo Harbor – upland site is full - and Northern California beaches as grain size determines placement site requirement.

    j. The EPA (Brian Ross is a POC) may consider amending the 80/20 rule based on results of new studies.

k. Is 80/20 the right rule? What defines beneficial reuse – greater flexibility (e.g., 60-75% sand) would allow greater placement flexibility. Seasonally there is big difference between winter and summer hydrodynamics – should this be considered.

l. *Potential Work Plan Note:* Greater understanding of sediment grain size envelope of acceptability for beneficial reuse would be helpful.

- Other Comments or Questions

  a. Will the User's Guide and Draft Guidelines be part of the final document? *Response:* The User's Guide is a separate product. Relevant Input from the workshops relative to guidelines will be included in the document. July 27 will be the kickoff meeting for the Humboldt RSM Plan.

4. Workshop Process & Products & Next Steps

- Next Steps
  - Summarize received Input.
  - Draft Resource Protection Guidelines will be reviewed and finalized based on received comments.
  - Guidelines will be incorporated into the Abbreviated User's Guide.
  - The draft BIA document will be finalized base on received comments.
  - A Work Plan will be prepared for recommended additional efforts.
- Next Workshop: August 4th @. Southern California Coastal Water Research Project in Orange County.

ADJOURN

WORKSHOP ATTENDEES

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