

**COASTAL REGIONAL SEDIMENT MANAGEMENT PLAN (CRSMP)
EUREKA LITTORAL CELL, HUMBOLDT COUNTY
Meeting 1 Notes**

- Date:** July 27, 2010 9AM
- Location:** Humboldt Bay Harbor, Recreation, and Conservation District Board Room,
Woodley Island, Eureka, CA
- Attendees:** Attendance List attached
- Moderator:** Elizabeth (Betsy) Watson, Humboldt State University
- Note Taker:** Jacqui Brennan, Humboldt State University
- Agenda:**
- Introductions
 - RSM Program And CSMW Objectives
 - Prior Work / Local Issues
 - RSM Schedule / Desired Input From Stakeholders
 - Break
 - Focused Discussion On Issues particular to this study area

Meeting Summary

1. RSM Program and CSMW Objectives

*Presentation by Clif Davenport, CSMWs Project Manager and John Dingler, Lead Planner,
USACE San Francisco District*

- Overview of the Coastal Sediment Management Workgroup (CSMW), the driving force behind the CRSMP.
- *Powerpoint file of presentation is available on CSMWs website:*
www.dbw.ca.gov/csmw/default.aspx (under Current Activities)
- *CRSMP Framework*
- *Overall Goal of each CRSMP is to define coastal problems and solutions for a region of the California coast for a period on the order of 50 years (not site-specific projects).*
- Concerns – Habitat, Sediment TMDL (Total Maximum Daily Load), Dredge-Material Placement, Coastal Processes, Shore Protection, Pollutants, and more (See PowerPoint for expanded list).
- Deliverables – Data-Gathering and Compilation Report, Draft CRSMP, Final CRSMP.
- Outreach efforts to stakeholders throughout.
- CRSMP Study Questions and Priorities

- Sources of sediment
- Wetland restoration including sediment “needs”
- Retention of sediment and reduction of erosion
- *CRSM Plans Have Been Completed for:*
 - Southern Monterey Bay, Santa Barbara Littoral Cell, and San Diego County
 - Available for reference on CSMWs website
- *Ongoing and Upcoming CRSM Plans:*
 - Eureka, San Francisco Bay, San Francisco Open Coast, North Monterey Bay, LA County, Orange County

2. Prior Work and Local Issues

Presentation by David Hull, Exec Director, HBHRCD

Powerpoint file available at CSMWs website: www.dbw.ca.gov/csmw/default.aspx (under Current Activities)

- Three areas of Humboldt Bay: Arcata Bay (conservation), Mid Bay (harbor/port), South Bay (conservation)
- The major sources of sediment for the Eureka littoral cell are the Mad and Eel Rivers
- Other sediment sources include watershed erosion and storm water (more information on storm water can be found through Fish & Wildlife GIS study mapping culverts)
- Dredging and placement types in the region include: cutter-head dredge with barge transport and placement, clamshell dredge with scow transport and placement, upland dredge-material placement, and cutter-head dredge with beach placement. The Harbor District dredges at a 7 to 10 yr frequency, and the 2006/7 dredging episode removed approximately 230,000 CY at a cost of \$3.3 million.
- The District recently acquired the Louisiana-Pacific upland placement site
- Humboldt Bay is listed as an “Impaired” water body for Dioxins. A Dioxin work group is working with the San Francisco Estuary Institute with the goal of developing a sampling and analysis protocol for dredging.
- The Entrance Channel shoal is dangerous to fishing boats. Corps dredges about 1.2 million cy/yr from the Bar and Entrance Channel
- The Harbor District currently is seeking funds for continuation of the USACE’s Long-Term Sediment Management Study (LTMS)

- LTMS goals are to maintain channels, minimize dredging, maximize use of dredged materials (Information from the CRSMP can be used for Humboldt's LTMS as well as sediment management plan for Eureka Littoral Cell)
- Inner Bay - has not been dredged this year; only the sandy channels into and within the Bay
- Project dredging issue: use of fine sediment on sandy beaches
- Possible issue in beneficial use: sandy material OK but no capability for in-bay silty material at this time.

3. RSM Schedule and Desired Input From Stakeholders

CRSMP elements described by Dilip Trivedi, M&N

- Sediment Budget - Where is sediment coming from and going to?
- Change the public's mindset from "dredged spoil" to "beneficial reuse".
- Previous questions: [how] Can we reduce the amount of shoaling and dredging? Are there other disposal sites? In San Francisco, regulations specify the, maximum volume of sediment that can be dredged and specifies where and in what percentages that it can be placed (open ocean, in-bay, or upland beneficial-use sites).
- Possible issues with permitting/time-frame/funding and long-term planning.
- Overall Goals of the CRSMP:
- Look at all sediment inputs and outputs, types of sediments, natural processes, and beneficial reuse options.
 - Use a fifty-year time-span for the plan (Is that a reasonable time-frame?) with room to consider climate change.
 - Generate a GIS database to be hosted on the CSMW website.
 - Potential implementation (done over summer and early fall) with the goal to have a working draft in October.
- Issues of fines: availability for restoration projects may capture the attention of City government (possible barrier to City participation being the impression that the Harbor District has the sole responsibility).
- Include in plan draft: possibilities and steps for beneficial reuse and restoration related to sea level rise and climate change, levees, and the replacement of tide gates, etc. to encourage City participation.
- Looking towards October meeting – expect draft summary of literature review beforehand

4. Focused Discussion On Issues particular to this study area

Discussion led by Betsy Watson

1. *Outreach* - Possible issue of interest and participation may be related to individual docks with individual Corps permits that are not included in overall plan.
2. *Endangered Species*
 - Native plants (in another federal plan done in Crescent City an issue came up with lilies...)
 - Birds: Potential impact to feeding; migration (Overall impact depends on the location of the project...)
 - Inland Region deals with birds and plants. Must speak with Scott (Vicky Frey will email list to Noel Davis)
 - Marine Mammals
 - Fish:
 - Listing for Euchalon (smelt) in Freshwater and North (found offshore);
 - Tidewater Goby
 - Candlefish (recently listed so could be of concern in nearshore dredged-material placement);
 - Salt coho salmon (state and federally listed);
 - Spring and winter runs of Sacramento Chinook
 - Longfin smelt
 - Korie Schaefer and Bob Hoffman are contacts at NOAA Fisheries
 - There is no designated critical habitat in the nearshore.
 - North American Green Sturgeon do come into Humboldt Bay - unsure where in nearshore but do move north-south through area.

Data Sources:

- PG&E Wave Connect Project has good summary of literature – see their website e-library
- Wave Connect Team – Milt Boyd (HSU) pooling information for impact wave study on species and will be compiling existing literature.

Consideration of Marine Protected Areas (MPAs):

- Proposed areas for MPAs can be found on Fish & Game's website. Are MPAs currently proposed for the Eureka Littoral Cell?
- Sanctuaries and MPAs will be designated by first of next year.

3. *Physical Processes*

- Climate Change and Sediment Impacts in Humboldt Bay System
 - Need for modeling of sediment inputs and outputs for Humboldt Bay watershed (ongoing search for funding – Humboldt Bay Initiative).
 - Interest in ways this plan can address those needs or act as a template
 - Specific physical impacts of erosion: some sites are known, but specific locations and erosion and accretion rates are not documented.
- Gap in data: physical processes related to the Bay
 - Minimal to no sediment data on local estuaries that feed into bay.
 - Tributary sediment input data is documented now for Elk, Freshwater, and Jacoby Creeks
- Education and community awareness or involvement that includes participation by public in the climate change discussion...
- Sediment output from the Mad and Eel Rivers makes up a significant percentage of the total sediment coming out of watersheds in California
- The Eel River is the largest sediment source for Humboldt Bay (has never been documented)
 - When the river floods (winter), sediment plumes are directed northward by alongshore currents, and the incoming tide may bring that sediment into the Bay.
- Littoral Cell data is from 1970's; watershed practices have changed.
 - Jeff Hansen from the USGS is looking at this question and has interest in further research work through CRSMP.
 - Input term for net sediment transport along the shoreline is still unknown despite modeling. Studies show a small net sediment transport in the Eureka littoral cell with potentially large annual northward and southward movement, dependant on the season.
 - Enough modeling exists from local buoys to get consensus...but input term is unknown given outdated and changed practices (based on Geological Survey data from 60's 70's)
 - Need for report to dispute, refine, gain consensus
- Efforts that may address data gaps include the CDIP MOPS program, the USACE Dredged Material Management Plan (DMMP), and the USACE CMS sediment transport model.
- Need to talk to crab fishermen for anecdotal local current and sediment-plume information (Contact Jimmie Smith who can suggest people who fish the beach).

- Shellfish growers know depth of silt (such flooding and silt disposal occur in Winter)
 - Possibly no data exists but shellfish folks may be able to talk about processes. (Contact Tedd Keipur and Todd Van Herpe).
- Plumes come north. Fine-grain sediment ends up on the beach where it stays until waves resuspend it.
 - Question: Natural occurrence that occurs with flooding?
 - Need for winter sampling
- Local shellfish growers have knowledge of Mad River Slough flooding.
- Redwood Sciences Lab: collected bed load and sediment transport samples from Jacoby Creek and possibly some on Mad River.
- Graham Mathews and Associates reports
- CHERT: County of Humboldt Extraction Review Team (bedrock extraction).
- Caltrans: Consideration for future planning (potential sediment needs)
- RCD: Salt River (Drains into Eel near Ferndale, only 1/2 mile above ocean) dredging project (good documentation exists on that project)

4. *Tectonics & Historical tide records*

- Data on sea level rise from the North Spit gauge suggests a greater SLR rate than nearby buoys. However, benchmark may have moved during 1992 earthquake, so the SLR rate based on North Spit gauge may be incorrect.
- Most of big seismic activity locally has been after the last data collection. Data on tectonics may not be reliable (a couple of the bench marks need to be resurveyed).
- Work done on tectonics includes historic geological time
- Work done in the Eel River Valley to measure benchmarks (10 yrs ago at least), showed valley had “tipped”

5. *Possible Reuse Sites*

- Erosion of bluff South of Bay may be due to river dynamics more than ocean wave-attack.
- Coastal erosion occurs on bluffs north of Trinidad (outside of Littoral Cell) in the Big Lagoon area.
- Locations along the spits that could serve as beneficial-use sites (dune stockpiles). Contact dune experts and people working on restoring native dune plants (Andrea Pickard at Fish & Wildlife, and contact Friends of the Dunes)

- Project at Samoa for tsunami preparedness.

6. *More Local Contacts*

- Pilots: River mouths migrate to the north; is that evidence of sediment moving to the north? (Typical for river mouths to migrate during times of low river flow and break through their spits during high floods).
- Offshore ocean-habitat information can be found at the State from MLPA mapping project website (coastalwatershed.ca.gov) in the estuary section for mapping and understanding habitat, as well as many references.

Action Items for Study Team:

1. Reach out to Cities of Arcata and Eureka, and Humboldt County to identify their issues and potential long and short-term projects.
2. M&N ftp site information will be provided to the group to allow sharing of reference documents relevant to the plan.
 - Post all literature compiled to date on the ftp site for team sharing
3. Research the FERC PG&E Wave Connect Project and pull data of significance.
4. Contact crab and shellfish fishermen to acquire relevant anecdotal information (i.e. current patterns and HB sedimentation).
5. Consider developing a checklist to circulate to agencies that conduct restoration projects (i.e. Caltrans and local jurisdictions).

MEETING ATTENDEES

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Noel Davis, Chambers Group, ndavis@chambersgroupinc.com, (Marine Biologist)

Brian Leslie, Moffatt & Nichol, bleslie@moffattnichol.com, (Coastal Scientist, data gathering: GIS and literature review)

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Clif Davenport, CGS, clif.davenport@conservation.ca.gov

JB, USFWS, james_bond@fws.gov (concern for impact on endangered species/ geology +oceanography)

Susan Schlosser, Calif. Sea Grant, sschlosser@ucsd.edu (ecosystem-based management and climate change: relationship to sediment, wetlands + habitat)

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