



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

**WORKSHOP #5
13 JULY 2010
10:00 AM – 3:00 PM
SAN FRANCISCO ESTUARY INSTITUTE (SFEI)
OAKLAND, CA**

WORKSHOP OBJECTIVE

“Information exchange and transfer; identify sediment management issues of concern relative to Bays, Lagoons, and Eelgrass habitats; 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, and Eelgrass habitats and resources.”

❖ **Welcome & Introductions – Clif Davenport and Karen Green**

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

❖ **Workshop Agenda**

- Review workshop purpose and objectives, review resource protection guidelines and user’s guide organization, and review of Bays, Lagoons, and Eelgrass habitats.

❖ **Resource Protection Guidelines & User’s Organization**

- Review of CSMW Structure
 - CSMW STRUCTURE
 - Funding Agencies are BEACON/NMS and USACE
 - Project Manager/Moderator for Current Workshop: SAIC
 - Co-Chairs: USACE and CA Natural Resources
- CSMW Mission Statement and Goals
 - CSMW MISSION
 - *“To Facilitate Regional Approaches to Protecting, Enhancing, and Restoring California’s Coastal Beaches and*



Watersheds Through Federal, State, and Local Cooperative Efforts.”

- CSMW GOALS

- Coordinate California’s coastal beach and watershed restoration, protection and enhancement efforts with local, state and federal stakeholders and programs;
- Better coordinate coastal sediment management and beach nourishment activities with related ongoing coastal watershed management, habitat restoration and protection, water quality enhancement, resource sustainability, and urban waterfront planning efforts;
- Increase awareness of state and federal coastal beach and watershed protection, restoration and enhancement policies, programs and activities among local and regional governments; and
- Prioritize sediment needs and opportunities, make such information available to resource managers and the public, and identify opportunities to streamline regional sediment management activities in California by developing a comprehensive "Sediment Management Plan".
- Regional Sediment Management (RSM) in 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.
 - Wetland restoration is becoming increasingly important in RSM projects in Southern CA.



- Largest viable sources of beach-usable sand are found offshore.
- All CSMW activities in the RSM arena should and will be done in an environmentally benign manner.

- 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 study to improve guidance for mitigation of environmental impacts in RSM Studies. Draft Biological Impacts Analysis Report completed by SAIC in March 2007. CSMW submitted draft report to multiple agencies and one of the recommendations was to develop Natural Resources Protection Guidelines.
 - Today's workshop is the 5th in a series of 7 related to development of the Natural Resources Protection Guidelines.
 - Content and focus of the day's discussions are geared toward the unique habitat characteristics and concerns within the San Francisco Bay region.

 - 2/18/10 Long Beach: Guideline Development and Agency Coordination
 - 2/24/10 Sacramento: Resource Protection in Managed and Recreational Areas, Water Quality
 - 6/16/10 Carlsbad: Habitats including Sandy Beach, Dune/Strand, Sandy Subtidal
 - 7/1/10 Moss Landing: Habitats including Rocky Intertidal, Rocky Subtidal, Surfgrass, Kelp Beds
 - 7/13/10 Oakland: Habitats including Bays, Lagoons, and Eelgrass
 - 7/14/10 Eureka: Habitats including Bays/Wetlands and Commercial Fisheries
 - 8/4/10 Orange County: Impact Assessment, Monitoring, Database Tools

- BIA Report Specifics
 - Draft Report will incorporate comments received from all 7 workshops and should be finalized following last workshop.
 - 3 Primary Item were added as a result of the CSMW review: Abbreviated User's Guide, Resource Protection Guidelines and Workplan.

- Report also contains appendices that provide summaries of information contained within report and sources for the information.
- Effectiveness of Best Management Practices (BMP's) is an issue of concern and very hard to quantify. More description will be added in Chapter 6 explaining effectiveness of mitigation measures.
- Action items to implement recommendations will be developed based on comments received as part of the Work Plan
- USER'S Guide Organization: will be habitat based (including effects on nearby habitats, special jurisdictions coordination, special resource protection considerations, impacts of activities on habitats of all types, monitoring considerations pre and post construction, and performance evaluation of monitoring measures). First two meetings developed the need for involvement of more regulatory and field personnel performing this type of work
- Draft report is intended to be a resource for a broad range of various users (planners, scientists, construction, regulatory, etc.).
- Response to comments and completion of final document involves:
 - Workshops
 - Development of resource protection guidelines
 - Finalization of BIA document
 - Preparation of abbreviated user's guide
 - Development of work plan
- Objective for draft report is to streamline document and use a flow-path approach to monitoring impacts.
- Important note the resource guidelines will be habitat based.
 - Some guidelines will not apply to all projects, only specific habitats

COMMENTS

- *Comment:* Is draft report available?
Response: It is available on a case by case basis and can be disseminated through Clif (CSMW). Anyone interested in obtaining the draft report should contact Clif directly.
- *Comment:* Is Chapter 6 (Mitigation Measures) still under revision?
Response: Yes, as information is still being gained from resource agencies regarding past mitigation examples and their effectiveness.

❖ Bay and Lagoon Habitats

- Topics
 - Habitat Functions and Species of Concern, BMP's/Mitigation Measures including Benefits and Impact Issues
- **Habitat Functions and Species of Concern**
 - Sediment Management Activities of concern for today's workshop include:
 - Maintenance Dredging or Excavation
 - Dredge and Discharge Site
 - Beneficial Reuse of Beach Compatible Material
 - Beach Nourishment and Shoreline Protection
 - Agency Coordination
 - SF BCDC, EPA, USACE, State Lands, CCC, etc.
 - Examples of State or Federally Listed Species of Concern include:
 - Black, white abalone
 - California Clapper Rail
 - Least Tern
 - Marbled Mullet
 - Belding's Savannah Sparrow
 - *Comment:* Karen Inquired on whether there are species of specific concern in the San Francisco Region?
Response: Those that have relatively short windows for dredging avoidance (i.e. Green Sturgeon, Long Fin Smelt, Delta Smelt).
 - *Comment:* Not many shorebirds or marine mammals are listed here. Sightings of Grey Whales feeding in San Francisco Bay are increasing.
 - *Comment:* Long Fin Smelt becoming an increasing large concern on recent projects in the Bay. Applicants must provide summary of whether they believe there will be impacts or provide statement of no-take. There is also a Long Fin Smelt Guideline as well.
 - *Comment:* Nesting Bank Swallows are a species of concern near Ocean Beach.

- *Comment:* Dune species affected by grain size is an important consideration as well.
Response: This is being considered and also with regard to beach wracks as well.
- *Comment:* What is the concern with Nesting Bank Swallows?
Response: They nest in the bluff and this presents problems.
- *Comment:* Native Oyster is a species of concern.
- Bay and Lagoon Habitats of Concern
 - Softbottom subtidal, sandy beach, tidal flat, eelgrass meadow, kelp bed, rocky riprap, and marsh-wetland,
 - *Comment:* Also include rocky intertidal and artificial substrates habitats. A submerged aquatic vegetation category includes Sago Pondweed. What are exotic species of concern?
Response: Asian Seaweed, cordgrass, etc.
- Maintenance Dredging Work Windows are limited by project area and species types present
 - There's a 5-yr window for monitoring of delisted species.
Comment: Was the CA least tern a fully protected species?
Response: Karen will check on this.
- The following resource protection considerations must be taken into account when assessing impacts of sedimentation and turbidity from dredging activities on habitats:
 - Habitat Removal
 - Dredge damage (from anchors, chains, propellers)
 - Entrainment
 - Noise, lights and other disturbances (i.e. visual)
 - Turbidity
 - Sedimentation
 - Accidental spills
 - *Comment:* contaminants should be included. Clapper Whale and Beldings should be discussed.
- The following resource protection considerations must be taken into account when assessing impacts of sedimentation and turbidity from sediment placement activities on habitats:

- Burial, crushing, and smothering of habitats greatest concern
- Equipment damages (anchors, chains, pipelines, etc.)
- Turbidity (reduction in vegetative growth, interference with seabirds, fish foraging)
- Indirect sedimentation (habitat loss, degradation of habitat function, reduction in vegetative recruitment and spawning grounds)
- *Comment:* There is always some level of man-made chemicals present in sediment. Is there a completed study that details any past analysis?
- *Response:* Task force study done in Los Angeles.
- *Comment:* Purpose is assessing sediment for beneficial reuse so decision was made in the past to focus on relatively clean sediment. Currently, there is no formal guidance for addressing reuse of contaminated sediment.
- *Comment:* Most sediment will contain some level of contamination. In San Francisco District, contaminated sediment is being referred to as waste.
- *Comment:* How could we classify sediment better?
Response: We need a process for determining what impact contaminated sediment has on receiving environments. Thresholds for levels of contamination on receiving beach are not easily understood, which is causing a lot of the inconsistencies.
- Invertebrate Recovery
 - Want to minimize amount of time associated with invertebrate recovery. Rates associated with recovery are rapid for navigation channels (~1-6 months) and slower for areas infrequently disturbed.
 - Want to avoid stockpiling of dredged material below the high water line
 - Minimization of change to discharge/dredge substrate desired
 - *Comment:* USACE San Francisco District is preparing a programmatic consultation with NMFS to assess the possibility of reseeding areas overtaken with invasive species with native benthic species. A pilot study was done to assess possibility of reseeding a site with native species, as non-native species typically take over when introduced, up to 95%. This can be found at "Reclamthebay.com". The quality of the introduced species is of concern and this will likely increase the benthic habitat for the subject species. NMFS has recommended this technique as a way to

compensate for impacts. Environmental windows for construction will also be considered.

- *Comment:* Rate of recovery depends on hydrodynamics in the local area.
 - *Comment:* There should be more discussion of contaminated areas of concern in dredging.
 - *Comment:* If there are high levels of contamination in placed sediment, caps should be incorporated and coordination with sediment management agencies should be performed.
 - *Comment:* Will the document provide better recommendations for sediment management activities?
Response: Final draft document will be complete by September.
 - *Comment:* Is there a tie to mitigation opportunity?
 - *Response:* The report avoided specific recommendations. The implementation chapter describes funding.
 - The “Baylands Ecosystem” document was a similar effort done for tidal wetlands in the Bay to provide blueprint for areas to avoid.
 - *Comment:* The “Upland Habitat Goals Project”, managed by the Bay Area Open Space Council, focuses heavily on stream, riparian, upland habitats.
Comment: Turbidity and sedimentation can impact invertebrates as well. There are a lot of data gaps when assessing impacts due to these issues on invertebrates. This is also very site specific.
- Dungeness Crab
 - Issues of concern:
 - Damage, entrainment, sedimentation
 - Protection Considerations:
 - Observe environmental windows during construction
 - Utilize measures to reduce turbidity/sedimentation near nursery areas (i.e. silt curtains, operation controls)
 - *Comment:* Sand waves can be used to promote migration in project area.
 - Lobster
 - Issues of Concern:
 - Protection Considerations
 - Avoid degradation of rocky and surfgrass habitats

- Avoid night-time dredging near breakwaters or riprap during the closed fishing seasons (1st Thursday after March 15 until Friday preceding first Wednesday in October).
- Tidewater Goby
 - Issues of Concern:
 - Unnatural breaching of lagoon inlets, increased tidal mixing, sedimentation
 - Protection Considerations:
 - Conduct pre-construction surveys
 - Relocate prior to construction
 - Use source control measures to minimize sedimentation of habitat.
 - Biggest issues with Tidewater Gobys in the San Francisco Bay region are that they are being seen on beaches more and are being disturbed during projects and from turbidity.
- Green Sturgeon
 - Issues of concern are disturbance, forage reduction
 - Protection Considerations:
 - Need to coordinate with NMFS if within critical habitat area
 - Promote benthic recovery through minimization of project area substrate.
 - Avoid dredging near inlets to freshwater tributaries during migration to spawning grounds (Feb-July)
 - *Comment:* There is a 30 day grace period. NMFS is developing a Programmatic Biological opinion on the grace period and work window because of their year-round presence. There are issues associated with turbidity and sedimentation.
 - *Comment:* Where do they live?
Response: The adult populations move throughout the Bay but we don't know much about juvenile populations. We don't know when the report will be available but hope to finalize information by next year.
- Smelts
 - Issues of Concern are disturbance and forage reduction.
 - Consultation required for all Smelts

- Long Fin Smelts: consultation must abide by environmental work window.
 - Delta Smelt: consult with FWS, DFG on protective measures
 - *Comment:* DFG will be presenting formal guidance on how to mitigate during dredging projects. Currently, applicant must state their expected impact determination but there are no formal guidelines for addressing Long Fin impacts.
- Salmonids
 - Include Chinook Salmon, Coho Salmon, Steelhead
 - Issues of concern include entrainment, sedimentation, turbidity, noise, lights.
 - Protection Considerations
 - Good operational control of dredge is important.
 - Abide by work windows
 - Avoid night-time dredging in outmigration areas and shield lights in areas of salmon migration
 - *Comment:* Are you suggesting active maintenance of the inlets or that you don't plug the inlets? Should include language that you should not open inlets where they're intended to be naturally closed. Maintain inlets to tributaries.
Response: Agreed, the report does not recommend closing inlets that are naturally closed.
 - *Comment:* What other issues are associated with Salmonids?
Response: Not many as long as projects abide by environmental windows.
 - *Comment:* Valero project is able to dredge year round and abide by windows per the resource agencies.
 - *Comment:* When dredging occurs outside dredge windows, are there examples of consultations/measures taken to mitigate?
Response: No specific past projects but it is recommended examples be included.
- Pacific Herring
 - Issues of Concern: damage, sedimentation, turbidity
 - Protection Considerations:
 - Should schedule within approved environmental work windows

- Minimization of sedimentation and turbidity of eelgrass meadows
- *Comment:* There is language in permits that no work can occur during spawning timeframes.
- Contamination: spills associated will be incorporated as well.
- Least Tern
 - Protection Considerations:
 - Schedule outside breeding season if within 3,000 ft of nest sites
 - Consult with USFWS if project within 1 mile of nesting colony during breeding season
 - Use measures to reduce turbidity
 - Maintain near surface water clarity in the project area
 - Maintain ambient noise levels or <60 dB at nest sites
 - *Comment:* 60 dB seems to be a low level.
 - Direct or shield lights away from nest sites.
 - *Comment:* “Considerations” seems to not be enough. Maybe we should state that you MUST consult. This is true for Salmon, Green Sturgeon as well because you must consult if you perform work within work windows.
 - *Comment:* For least terns you don’t have to consult year round for dredging projects. For projects other than dredging, you must consult.
 - *Comment:* If project is within San Francisco Bay, refer to DMMO at the San Francisco District USACE.
 - Appendix J of the Draft Report has this information.
- Snowy Plover
 - Issues of Concern are disturbance and turbidity
 - Protection Considerations:
 - Schedule outside breeding season if within 1,500 ft of nest sites
 - Consult with USFWS if project is within critical habitat
 - Use measures to minimize invertebrate recovery
 - Maintain ambient noise levels or <60 dB at nest sites
 - Direct or shield lights away from nest sites.
 - *Comment:* There are windows for both nesting and foraging, but you must formally consult first.
 - *Comment:* Consult on RGP Value depending on what locality you’re in as the value changes depending on location.
 - Different considerations depending on time of year and location.

- *Comment:* The light issue will be critical at nest sites but also breeding sites as well.
- *Comment:* San Francisco Bay Bird observatory is using cameras to observe impacts of light levels on Snowy Plover nest sites.
- *Comment:* Predator control and reduction must be monitored as well (i.e. FWS has nest exclosures they recommend for use)

- Clapper Rail
 - Issues of Concern: disturbance, sedimentation
 - Protection Considerations:
 - Schedule outside breeding season (March 1 – Aug 15)
 - Consult with USFWS if species has potential to occur
 - Minimize access routes in marsh areas according to a pre-approved vehicle route plan.
 - Maintain ambient noise levels or <60 dB at nest sites
 - Avoid removal of cord grass
 - Any removal will be in accordance with a pre-approved plan and will be conducted during lower tidal stages.
 - *Comment:* Invasive species a concern
 - *Comment:* Wetland Restoration example is Giacconi Marsh where mitigation was performed for Clapper Rail. Bair Island EIR as well.

- Marine Mammals
 - Issues of Concern: disturbance, turbidity
 - Protection Considerations:
 - Use measures to reduce turbidity
 - Minimize use of equipment within 1,000 ft of seal haul-outs or within 2,000 ft if pups are present.
 - Maintain ambient noise levels or <60 dB at nest sites
 - *Comment:* For breeding harbor seals there is an environmental window in location of breeding. There are a couple areas in SF Bay where harbor seals are present.
 - *Comment:* Noise a great concern with regard to seals as it impacts fisheries as well. In some cases, boats/dredges have been diverted from breeding areas.
 - *Comment:* There are incidental harassment permits that can be provided if needed (FWS & South Bay Salt Ponds for bird species and NOAA for marine mammals).
 - *Comment:* Breeding is more restrictive than overwintering.

- *Comment:* San Francisco Bay Joint Venture is a good resource for wetland restoration. 15-20 agencies that provide database for major wetland projects in San Francisco Bay
- 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.
 - *Comment:* CA eelgrass policy from NOAA is being prepared but is undergoing many revisions. Bob Hoffman leading the effort.
 - *Comment:* For EFH, NMFS asks for no net loss of eelgrass plants.
 - *Comment:* Golden Gate National Recreational Area (GGNRA) will be asking for no loss of potential eelgrass habitats as well. "Biomitigation.org" has model that predicts where eelgrass will grow.
 - *Comment:* NMFS has 3:1 mitigation ratio at start of project. Discourage light level impacts, etc. 250 meter buffer study done for impacts of dredge operations on surrounding eelgrass species. Zimmerman Study was the reference for the light levels. Pre and post eelgrass surveys can also be done in-lieu of light monitoring surveys. NMFS has a Programmatic EFH consultation that will be signed today for Eelgrass.
- Types of BMP's and Effectiveness Considerations
 - Cycle time
 - Bucket Dredges, Cutterhead Dredges, and Hopper Dredges can all utilize different mitigation measures
 - *Comment:* There aren't standard BMP's for dredging in the Bay.
 - *Comment:* Does DMMO have specific guidance?
 - *Response:* It's part of their dredge operation plan, which goes to the Corps.
 - *Comment:* There is no BMP manual for RSM. Carolyn will check on BMP's for dredging, if there are specific BMP's for dredge types. Beth Christiansen is regional POC for water quality in the SF Bay.

- Water Clarity
 - *Comment:* At low tide, 1/3 of Bay is exposed. Another 1/3 is less than 6 feet in depth.
 - *Comment:* Turbidity is dependent on wind as well, so tern sites are impacted on a site specific basis in the SF Bay
 - *Comment:* Does timing of project based on site specific characteristics change thresholds and limitations for turbidity levels?
Response: Every project different
 - *Comment:* What is reason for deficit of sediment in SF Bay?
Response: Scouring.
 - A two day workshop with BCDC, USGS (Sediment Dynamics in SF Bay Workshop) to identify data gaps/needs was held recently. Minutes from the workshop should be available soon.
 - Saltmarsh Harbor Mouse should be included
 - *Comment:* Does source of sediment impact resource protection guidelines?
Response: Yes, as offshore dredging has different impacts than borrowing from upland or nearshore areas.
 - *Comment:* Will sand retention be included as part of draft document?
Response: Not in great detail but it was in the SANDAG Plan.
 - *Comment:* Living shorelines and PEM's (Pressure Equalizing Modules) should be mentioned in the Draft Report.
Response: PEM's are mentioned on CSMW website but scientists haven't been able to prove their effectiveness. NMS Monterey Bay had PEM's as an alternative but eliminated them due to lack of proven science.



❖ **Workshop Process & Products & Next Steps**

- Next Workshop: July 14th @ Humboldt Bay Harbor, Recreation and Conservation District Office in Eureka.

ADJOURN

**NEXT MEETING
July 14th
HBHRC
Eureka, CA
10:00 AM – 3:00 PM**

DRAFT



WORKSHOP ATTENDEES

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