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

WORKSHOP #3
16 JUNE 2010
10:00 AM – 3:00 PM
USFWS OFFICE, CARSLBAD, CA

WORKSHOP OBJECTIVE

"Information exchange and transfer; identify sediment management issues of concern relative to beach, dune/strand, and sandy subtidal habitats; obtain input on resource protection guideline development considerations for these habitats. Review relevant sections of Section 6 of draft BIA Document pertaining to dune, sandy beach, and sandy subtidal habitats and resources."

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

AGENDA AND DISCUSSION

1. Introductions and Background - Susie Ming 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 3rd in a series of 7, which are listed below.

  a. 2/18/10 Long Beach: Guideline Development and Agency Coordination.
  b. 2/24/10 Sacramento: Water Quality, Water-Sediment Resource Protection in Watersheds, and Resource Protection in Managed Areas.
  c. 6/16/10 Carlsbad: Habitats and resources associated with Sandy Beach, Dune/Strand, and Sandy Subtidal.
  d. 7/1/10 Moss Landing: Habitats and resources associated with Rocky Intertidal, Rocky Subtidal, Surfgrass, and Kelp Beds.
  e. 7/13/10 Oakland: Habitats and resources associated with Bays, Lagoons, and Eelgrass.
  f. 7/14/10 Eureka: Habitats and resources associated with Bays/Wetlands and Commercial Fisheries.
  g. 8/4/10 Orange County: Impact Assessment, Monitoring, and Database Tools.

❖ Work Products

- o BIA Study: draft report will be finalized early next year based on received review comments and input received during the workshop series.
- o Abbreviated User's Guide: will provide condensed version (key topics) and cross-references to BIA report and the developed Resource Protection Guidelines.
- o 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

- o Primary objective is to provide streamlined version of the BIA document that will be of practical use to variety of end users.
- o 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. What is intent for how guidelines will be used (e.g., adopted by agencies)? Response: CSMW cannot direct how the guidelines will be used, it is up to each agency. It is envisioned that they will not replace permit requirements, which specify conditions and measures to minimize impacts specific to individual projects. It is hoped the guidelines will be helpful to agencies that review or permit projects, planners that design projects, and scientists that prepare environmental documentation relative to sediment management projects.
    b. Potential Action Item: CSMW further coordinate with resource and regulatory agencies regarding implementation of guidelines.

2. Beach & Dune Habitats

- Topics
  - Issues of Concern, BMP's/Mitigation Measures, Improvements for Resource Protection of Specific Habitats
- Types of Activities
  - Beach Nourishment (sediment discharge site, conveyance of sand from source location – may need to consider nearby dredging).
  - Sand Maintenance (Relocate Sand – Backpass, Bypass).
  - Beach Grooming (not sediment management, but reviewers have requested this activity be considered where possible).
- Sandy Beach Habitat Functions and Resources
  - Primary habitat for invertebrates – prey of fish and shorebirds, recycle nutrients, haul out for marine mammals.

- Resources of concern: managed species such as grunion and Pismo clam, threatened Western Snowy Plover (critical habitat, nesting, overwintering), endangered California least tern (may forage offshore), marine mammals (may haul out).
- Wrack important element of functional quality (supporting invertebrate prey base, nutrients).

o Potential Sediment Management Benefits

- Shoreline protection and habitat erosion control.
- Enhance habitat suitability across seasons (e.g., grunion habitat suitability was expanded across the full spawning season after the San Diego Regional Beach Sand Project at City of Encinitas beaches that were seasonally severely eroded prior to the project).

➢ Comments or Questions:

a. "Is specific attention being given to shoreline erosion and more natural ways to retain sand to provide more natural restoration and fewer impacts?" It is being given consideration and an example is the Oil Piers project under Section 227 program.

b. Eric Chavez (NOAA): NOAA interested in broader consideration of shoreline protection strategies beyond beach nourishment (e.g., dam removal, sand retention reefs, watershed improvements).

c. Loni Adams (DFG): Interested in natural ways to enhance sandy beach (e.g., wrack on beach , limit sand disturbance).

o Ecological values of beaches vary based on the type of beach and how long a wide beach persists. Cobble-based beaches provide less value in general.

➢ Comments or Questions:

a. May not want to oversimplify cobble habitat functions are less; while generally true, values may be supported when part of long natural benches (e.g., Trestles).

b. Consider organizing beaches with subtypes below (e.g., coarse sand, fine sand). More discussion of subtypes of sandy beaches would be helpful.

c. Ecological value – include how this is defined.

d. Need to be careful about how the level of ecological value is stated as this can easily be misinterpreted and too subjective.

e. Consider replacing " ecological values" with resources supported.

f. Have beaches become naturally cobble-based? Response: In many cases, it is dependent on site-specific environmental conditions.

g. Slide 37 - Mixed Sand and Rock – suggest changing to mixed sand-cobble.

- Dune Habitat Functions and Resources
  - Primary habitat for invertebrates and vegetation – forage and shelter for wildlife, recycle nutrients, stabilize beaches.
  - Resources of concern: several rare and endangered plant species, invertebrates, threatened Western Snowy Plover (foraging, nesting, resting), endangered California least tern (nesting, resting), other sensitive wildlife.

- Sand Placement Impacts include direct effects of sand placement and operation of equipment (e.g., bury, crush, smother invertebrates); indirect effects such as disturbance, noise, turbidity, and sedimentation; and potential for accidental contaminant leaks and spills.

  - Comments or Questions:

    a. Are placement impacts based on those only above MHW line or below? Response: Depends on type of project and how it is implemented.

    b. Slide 39 – suggest listing "bury, crush, smother" as sub-bullets under "sand placement" heading.

- Potential Sediment Compatibility Issues, Sedimentation, and Turbidity Impacts

  - Project purpose, method of implementation, and schedule are important considerations. For example, wider range of sediment types have been used to restore beaches after hurricanes on east coast. Wide range of sediment grain size characteristics naturally occur on California beaches based on physical and oceanographic conditions and nearby sediment sources (e.g., watershed, bluffs). Fine sediments naturally are delivered to coastlines from watersheds after winter-spring storms.
  - Impacts have been reported from fine sediment accumulation in the nearshore (project area was off Florida, low wave energy may have been contributing factor).

- Impacts have been reported when sediment with substantial shell hash was placed on east coast beach – interfered with shorebird foraging.
- Impacts may be influenced by how project is implemented. For example, placement of sand piles in the wave wash zone that are reworked over a tidal cycle involve less disturbance than sand spreading associated with beach building.
- There are data gaps relative to sediment compatibility and impacts as well as project performance. This has not been focus of monitoring.

➢ Comments or Questions:

a. Is compatibility of sediment size an issue? Response: It can be. For example, sediment too coarse (or with substantial shell-hash) may interfere with shorebird foraging.

b. How quick does sand move after placement? Response: Immediately with natural tide cycles, also depends on wave climate. Generally initially faster as beach equilibrates.

c. Need to look at impacts on adjacent habitats; e.g., potential for sedimentation to scour reefs.

d. Need to look at impacts on nearby, surrounding beaches as well, not just the local beach.

e. Impacts and project performance should be clarified based on the project purpose in terms of whether it is to build a beach or to allow sediment to disperse to replenish a littoral cell.

f. We need to be able to provide information through monitoring efforts that will fill in data gaps.

g. Have significant impacts from turbidity been documented. Response: Yes, for example, eelgrass reduction was reported after channel dredging in a harbor on the east coast – it was speculated that limited tidal flushing was a contributing factor because the die-off occurred in an adjacent basin with reduced circulation.

h. How much are fish impacted due to turbidity? Response: Depends on the type of fish and level of turbidity. For example, visual predators may avoid if prey are obscured. Some fish (including juveniles) may use turbid areas to hide from predators. Some fish are attracted to turbidity plumes associated with dredging or beach nourishment, which may be foraging response to released organic particulates.

i. Measures for minimizing turbidity are included in a permit provision for the Tijuana Sediment Fate Transport Study.

- Invertebrate Recovery
  - Primary impact to beach habitat from beach nourishment projects is reduction in invertebrate forage base. This generally is short-term impact because invertebrates recruit to beaches each year.
  - Degree of impact depends on physical beach condition, schedule, and how the project is implemented.
  - Depending on beach existing condition, impacts may be reduced by:
    - minimizing difference in grain size characteristics to the existing beach (encompasses dry beach and subtidal depths within littoral zone) – note there are exceptions (e.g., sand placement over erosive beach with loose cobble),
    - conducting inspections and testing to ensure compatibility of source sediments,
    - avoiding repetitive disturbance of same footprint in same year,
    - incorporating refuge areas (e.g., leaving unaffected areas between placement locations),
    - Scheduling outside the peak (spring-summer) recruitment period.

- Comments or Questions:

  a. Can invertebrate recovery be accelerated through management measures (e.g., seeding)? For example, at Oceana Dunes – seasonally bring in wrack , seeds area with invertebrates.

  b. Is there potential to have fewer impacts from placing finer sediment than the native beach? Response: In general, sediment finer than the native beach will be less persistent.

  c. Location of refuge areas might be important consideration in addition to incorporation of refuge areas.

  d. Dredging should occur outside environmental windows to minimize impacts.

  e. Beach slope is important for invertebrates and grunion. Consider placement scarps.

  f. Consider limiting sand volume thickness during placement to help minimize impacts.

  g. Recommend vehicle route plans to reduce impacts to habitats.

- Pismo Clam
  - Pismo clams are managed resource.
  - Pismo clams only occur in concentrations in certain areas of coastline. Pismo's have short planktonic larval stage, which likely contributes to persistence of beds. Pismo clam bed is sensitive resource.
  - Direct burial of Pismo clam beds is a potential concern. No mapping of beds are available but DFG has records of historical occurrence and has recently reinitiated surveys.
  - Protection considerations include Pre-Construction survey to determine presence/absence and avoidance of burial.

  - Comments or Questions:

    a. Turbidity may be concern, particularly for early life stages if they are more vulnerable than adults. Response note: concentration and duration of turbidity primary considerations relative to potential for impact. Potential influence of turbidity on early life stages and how that may affect a bed would need to consider spawning habitats of adults, project schedule, and frequency of potential disturbance.

- Grunion

  - Spawning Season: March-August.
  - Issue of Concern: beach spawning, protection of eggs.
  - Potential occurrence related to time of year as well as habitat suitability.
  - Protection Considerations: avoid areas where/when eggs are incubating and/or spawning is occurring. Conduct pre-construction survey to determine habitat suitability to support spawning. Conduct survey during predicted grunion run prior to and during construction to verify grunion spawning.

  - Comments or Questions:

    a. Karen M. reviewed that any sandy beach should be considered potential habitat. Determination of habitat suitability should only be done by qualified biologist. Concern expressed about limited understanding and data gaps in knowledge regarding effects of beach nourishment on habitat suitability, particularly locations where projects occur year-after- year.

b. Loni (DFG): Concern expressed about implementation of projects during spawning season because of past problems with some projects not adhering to agreements to halt construction when monitoring documents spawning activity. Grunion have open and closed seasons when take or no take is allowed. Pre-project surveys should consider vehicle access routes as well as the construction site.

c. Eric (NOAA): Encourage no work during spawning season. If work must be scheduled during spawning season, provide strong justification. Monitor predicted run prior to construction. If spawning observed, avoid area. Construction may be allowed to occur in other parts of project area if without risk to grunion.

d. Concern expressed that weather and oceanographic conditions make work outside the season very challenging and costly. Need to consider project benefits and provide some flexibility to conduct projects in reasonable manner.

e. Karen G. noted that previous permits have allowed construction if few grunion were observed and asked if there was a threshold for redirecting or halting construction. Eric answered the threshold is now 0 (no observed fish).

f. Karen G. noted that single-point discharge has been identified in prior permits as measure to minimize impacts and whether that was still the case. Eric answered that it may be considered on a project specific basis, but would require specific detail on implementation and would be subject to same construction restrictions if spawning observed.

g. Follow up Action Item: Karen G. to coordinate with Karen M. with guideline considerations relative to habitat suitability.

- Snowy Plover

  - Breeding season March 1-September 15.
  - Beach nourishment documented to provide habitat benefits to plovers.
  - Protection considerations have included schedule restrictions, buffers, equipment operation restrictions, and measures to minimize disturbance or interference with foraging or prey base.
  - RGP 67 restricts projects within 3,281 ft (1 km) of nesting sites during breeding season.

  - Comments or Questions:

    a. Sandy (USFWS): Slide 46-47 - ESA “formal” consultation required if site is within or has potential to affect critical habitat or project is

scheduled during breeding season and nest site nearby. Should consider indirect sedimentation as well as direct impacts. Slide 47 – consultation only required with USFWS.

b. Encourage work outside breeding season; consult with USFWS; if permitted: limit vehicle corridor (e.g., 50 ft) and speed (e.g., <15 mph), minimize non-essential vehicles, maintain forage base & wrack, avoid specific parts of beach where they roost, avoid night activity when plovers are more vulnerable to predators.

c. Informal consultation to determine need to formally consult if project area is within 1 km of nesting sites during breeding season or used for overwintering.

- Least Terns

  - Breeding season April 1-September 15.
  - RGP 67 – no beach nourishment activities within 3,000 ft of nest sites during breeding season.
  - Typically forage closer to nesting colony, although may forage over broader area.
  - ESA informal consultation (to determine if formal consultation is necessary) if project within 1 mile of nesting sites.
  - Comments or Questions:

    a) Proximity of project to foraging areas can also require formal consultation.

    b) Turbidity levels due to a placement could warrant a formal consultation if they negatively impact feeding sources.

    c) Sandy (USFWS):

       - Work outside breeding season
       - Consult with USFWS
       - If permitted, use measures to reduce turbidity (e.g., silt curtains)

3. Sandy Subtidal Habitat (Offshore Dredging/Nearshore Placement)

- Pismo Clam
  - Avoid sand placement on Pismo clam beds.

- Invertebrate Recovery
  - Protection considerations focus on minimizing recovery rates, such as minimizing change in surface substrate characteristics, hydrodynamics,

avoiding creation of deep holes, incorporate refuge areas in project design (e.g., leave gaps between dredge swaths).

- Comments or Questions:

  a) Do we distinguish project impacts based on project size? Response: The document reviews reported impacts by project size and distinguishes small, mid-size, and large projects.

- Live Bottom fisheries
  - Dungeness Crabs, Sea Cucumbers, Whelks
  - Need better understanding of areas of concern for these fisheries resources.

- Grunion
  - Comments or Questions:

    a) Karen M.: Turbidity may cause disturbance to spawning aggregations, grunion feed after spawning, possible attraction to discharge locations.

    b) Karen M.: Grunion will congregate off surf zone throughout the day before a spawning run. Therefore, a 4-hour construction constraint during spawning runs is not sufficient when considering nearshore placement.

    c) Concern expressed that fish may be attracted to spawn on beaches undergoing nourishment if they are attracted to forage within turbidity plume during the day. Response to turbidity is data gap.

- Least Tern

  - Comments or Questions:

    a) Follow-up item: Check with BCDC regarding least tern monitoring data in San Francisco Bay.

4. Workshop Process & Products & 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.

➢ Comments or Questions:

- "Will the document be a living document?" Response by Corps: We hope son, but not sure yet, it is all dependent on the amount of federal funding and state funding received.

- Is there deadline for review comments? Response: There is no formal deadline for comments but the sooner they're given the better.

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WORKSHOP ATTENDEES

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