

**HUMBOLDT BAY EELGRASS MANAGEMENT PLAN  
COLLABORATIVE PARTNERS KICKOFF MEETING  
MEETING MINUTES  
Harbor District Conference Room - 601 Startare Drive, Eureka  
October 20, 2016 12:10 – 14:15**

**WELCOME – Jack Crider**

**ROUND TABLE INTRODUCTIONS**

Whelan Gilkerson (Merkel & Associates)  
Keith Merkel (Merkel & Associates)  
Kathy Rogers (Merkel & Associates)  
Patrick Higgins (Humboldt Bay Harbor District)  
Jim Clark (Redwood Region)  
Lucas Sawyer (Hog Island Oyster Company)  
Matt Goldsworthy (NOAA/NMFS)  
Aldaron Laird (Trinity Associates)  
Lia Webb (GHD)  
Miles Scatterry (City of Eureka)  
Julie Neander (City of Arcata)  
Brenda Thompson (N Coast Regional Water Quality)  
Larry Doss (Humboldt Bay Harbor District)  
Kasey Sirkin (ACOE)  
Rebecca Garwood (CDFW)  
Melissa Kraemer (California Coastal Commission)  
Stephen Kullmann (Wiyot Tribe)  
Greg O’Connell (SHN)  
Bianca Hayashi (County of Humboldt Public Works)  
Joe Tyburczy (California Sea Grant Extension)

Lauren Garcia (California Coastal Commission) – on phone  
Cassidy Teufel (California Coastal Commission) – on phone  
Rand Lovell (State Aquaculture Coordination) – on phone

**OUTLINE –Vanessa Blodgett, Planwest**

Grant Overview

- This will be the first of at least 5 collaborative partners meetings
- The first Public Workshop will be held tonight, with one more when final plan is ready
- There will be admin, 2 draft versions of the plan and then a final
- All contents from meetings, etc will be placed on the Harbor District’s website (Conservation Tab)

Project Partners

- Humboldt Bay Harbor, Recreation, and Conservation District (160-hour commitment)
- Humboldt Baykeeper (20-hour commitment)
- California Coastal Conservancy (50-hour commitment)
- City of Eureka (40-hour commitment)

- City of Arcata (30-hour commitment)
- Humboldt County (20-hour commitment)
- Wiyot Tribe (80-hour commitment)
- Hog Island Oyster Company (50-hour commitment)
- NOAA (140-hour commitment)
- California Coastal Commission (70-hour commitment)

#### Management Plan Objectives

- Describe current understanding of baseline conditions of eelgrass in Humboldt County, identify gaps, and determine research priorities
- Develop management plan that achieves conservation of eelgrass, ecosystem, and wetland functions in Humboldt Bay, facilitates regulatory approvals, and provides a baywide approach to avoid, minimize, and mitigate impacts to eelgrass

#### Plan Contents

- Purpose
- Planning and conservation efforts
- Existing regulatory progress for eelgrass impacts
- Broader spatial context
- Eelgrass distributions, abundance and wetland/ecological functions
- Anthropogenic threats to eelgrass
- Sea Level rise and oceans acidification
- Eelgrass management goals and objectives
- Bay-wide approach to avoid, minimize, and mitigation impacts
- Eelgrass research and monitoring
- Eelgrass conservation opportunities and priorities

#### **INTRODUCTION OF MERKEL & ASSOCIATES – Keith Merkel**

Merkel & Associates was retained through an RFP process to assist in the Harbor District Humboldt Bay Eelgrass Management Plan

Merkel & Associates has a long history of work with eelgrass management issues along the Pacific Coast

Here to facilitate the development of your plan, need your input

#### **EELGRASS MANAGEMENT PLAN OVERVIEW – Whelan Gilkerson, Merkel & Associates**

##### Project Background

- 2014 Workshop was beginning point of this process
- September 2015 Grant Funding Received
- Goals
  - Develop a multi-agency management plan with consistent goals and strategies for restoration/conservation of eelgrass habitat
  - Improve efficiency of regulatory process for projects in Humboldt Bay
  - Establish long-term conservation strategy that allows for Sea Level Rise adaptation, dredging, and economic development in Humboldt Bay

##### Humboldt Bay's eelgrass in a broader context

- Humboldt Bay contains 30-35% of California eelgrass habitat
- Only one of the five main systems in California presently projected to support expansion of eelgrass habitat with Sea Level Rise
- Believed to be close to carrying capacity, making mitigation more challenging

- With Sea Level Rise predication to fully garner expansion potential, increasing the tidal prism by flooding into low-lying areas around the Bay would be required
- With Sea Level Rise, model predications call for a 15% increase in eelgrass by 2063 and 74% by 2113

#### EMP Development Process Overview

- 5 collaborative partner meetings Fall 2016-Spring 2017 (Harbor District, Merkel & Associates, Partners)
- 2 Public workshops (Harbor District, Merkel & Associates, Partners)
- Develop eelgrass restoration/protection goals (Harbor District, Merkel & Associates, Partners)
- Conduct bay tours to evaluate restoration/mitigation opportunities (Harbor District, Merkel & Associates, Partners)
- Baseline data/directed research (Merkel & Associates)
- Evaluate regulatory context, cost recovery, and monitoring (Harbor District, Merkel & Associates, Partners)
- Develop 2 drafts and final plan incorporating partner input (Harbor District, Merkel & Associates, Partners)
- Develop project webpage-Plan support, communication and project tracking (Harbor District)

#### Plan Development Components

- Policy and Values Elements
  - Determine plan priority/focus areas
  - Develop up front criteria for eelgrass surveying and/or mitigation planning requirements
  - Identify eelgrass conservation/protection priorities/locations
  - Establish restoration/mitigation priorities
  - Address temporary (recurring) vs. permanent impacts to eelgrass relative to mitigation requirements
  - Consider current vs future eelgrass distribution relative to climate change and Sea Level Rise
- Technical Components
  - Appropriate mapping and impact assessment methodologies
  - Anticipating and evaluating direct and indirect impact from projects
  - Addressing bathymetry, circulation, and other project-specific data needs
  - Evaluate active (e.g. transplant) vs passive (e.g. piling removal, Salt marsh restoration) mitigation approach and potential mitigation opportunities)
  - Mitigation site development, transplanting consideration, onsite vs offsite mitigation, potential for banking credits
- Regulatory Context, Cost Recovery and Monitoring
  - Understanding and aligning state and federal permitting requirements and options
  - Exploring Regional General Permit and/or other programmatic permitting tools
  - Evaluating mitigation bank development, in lieu fee program, or hybrid approach
  - Develop framework for long-term eelgrass monitoring in Humboldt Bay
- Opportunities for Plan Expansion
  - Recent stat legislation SB 2363 supports actions to combat ocean acidification. It promotes protection and restoration of eelgrass habitat and provides for funding to support adaptive management, planning, coordination, monitoring, research, and other necessary activities to minimize the adverse impacts of climate change.

- EMP Plan Coverage and Focus
  - Humboldt Bay - Importance of understanding eelgrass resources in a system context, populations variability, conservation mitigation opportunities, climate change/Sea Level Rise
  - Plan Emphasis – address developed ‘core’ use area of the bay, small incremental/recurring impacts w/focus on maintenance activities (e.g. dredging channels and public launch facilities), guidance for redevelopment & new construction activities along working waterfront.
  - Regulatory subcomponent – improve efficiency and consistency in application of eelgrass regulatory policy – mechanism for coordination
- Preliminary Focus Areas
  - Samoa, Fairhaven, and Eureka’s working waterfront
  - Entrance Bay/North Bay Channel
  - King Salmon and Fields Landing
  - High priority maintenance projects within Focus area of Plan (case studies). Advance policy, technical, and regulatory sub-components of the Plan.
  - Permitting these projects is beyond the initial scope of this Plan
- Baseline Eelgrass Assessment
  - Eelgrass habitat distribution and baseline conditions within the Plan focus area
  - Planning level assessment of potential impacts to eelgrass within the Plan focus area
  - Preliminary understanding of eelgrass mitigation needs and opportunities
  - Use existing aerial imagery and bathymetry, as well as collect new data.
- Surveying Considerations
  - Scale of Project
  - Depth of distribution of eelgrass
  - Mapping accuracy relative to accepted standards
  - Importance of detailed habitat maps (Getting the impact assessment right the first time, setting the appropriate mitigation targets, evaluating the outcome of mitigation/restoration actions, identifying opportunities for mitigation)
- Current & Emerging Approaches to Eelgrass Habitat Assessment
  - Intertidal (Current) - Differential GPS or Electronic Total Station – manual bed delineation suitable for small shoreline projects
  - Intertidal (Emerging) - Low altitude aerial imagery/photogrammetry. Unprecedented level of accuracy, deal for small-large scale projects. Ground based (pole camera), balloon, or UAV platforms. Archivable ‘snapshot’ of habitat conditions and project context.
  - Subtidal – Diver transects and bed delineation with surface support GPS/Total Station. Suitable for very small areas, confirmation of max depth distribution.
  - Subtidal – Sidescan/Interferometric Sidescan Sonar. Suitable for small-large scale project, cost-effective, accurate, and repeatable, preferred technique for any project likely to impact subtidal eelgrass
- Habitat Assessment – Long Term Monitoring
  - Understanding system dynamics
  - Context for impacts relative to eelgrass habitat variability at the Bay scale
  - Critical for long-term conservation of eelgrass in Humboldt Bay
  - Tracking the effects of climate change, sea level rise, and other drivers of habitat distribution

- Majority of Humboldt Bay eelgrass is intertidal-Use of emerging imagery tools with traditional transect-based habitat characterization = powerful and cost effective means of establishing robust long-term monitoring program
- Eelgrass Restoration and Mitigation Opportunities
  - History of past mitigation in Humboldt Bay – site suitability is critical to successful mitigation
  - Poor historic performance – high up-front mitigation transplanting ratios compounds the challenges and costs of mitigation
  - Need to think outside the box to find creative solutions for eelgrass mitigation
  - Opportunities exist at the site level, but need to be careful that mitigation and conservation efforts within the focus area of the plan don't conflict with other bay uses
  - Argues for a system approach to plan development. Promote eelgrass restoration/mitigation outside the focal area of the plan
  - Piling/decking removal for very small project impacts in the Plan Focus area
  - For larger scale impacts, need to identify opportunities at the system scale to restore/mitigate eelgrass habitat
  - Salt Marsh restoration in former tidelands increases tidal prism, facilitates eelgrass expansion in tidal channel network
  - Substrate remediation – shell hash/cobble legacy of historic bottom culture practices, continues to displace eelgrass from historic habitat
- Substrate Remediation to Restore Historic Eelgrass Habitat
  - North Bay Legacy Bottom Hardening Site
  - Outside current mariculture operations
  - Approximately 1/3 to 1/2 acre of eelgrass restoration capacity
  - Landowner receptive to conservation easement
  - Other similar opportunities exist. Challenges include: ownership and existing management

#### Progress to Date

- Background research of past eelgrass mitigation effort in Humboldt Bay (successes, failures, lesson learned)
- Eelgrass mitigation status, future maintenance dredging needs
- Preliminary project focus area/plan scoping
- QA plan development underway with EPA
- Preliminary research on eelgrass restoration/mitigation opportunities

#### Project Timeline and Meeting Schedule

- Partner meetings will be held at approximately 6-week intervals
- Doodle poll will be sent out regarding availability for the next meeting (late November/early December)
- Goal to hold final public workshop in May 2017

### **REGULATORY DISCUSSION – Keith Merkel**

CEMP parallels the SCEMP which has been in use in Southern California since 1991 (11 revisions) SCEMP laid out a framework and structure for mitigation and put obligations for success on the project proponent

CEMP expands the framework

Low success rate functional replacement hits Northern California hard in terms of ratio

Target does not increase the ultimate goal of achieving 1.2:1 within the establishment period

Reevaluated over time, ratio should be lowered  
Reasons for success – build in the expectation of partial failures based on historic success rates  
Important question for Humboldt Bay, how do you capture the residual from success?  
CEMP built in opportunity for Comprehensive Management Plan, which can modify or replace requirement of the CEMP but not the  
Expect to lose much of eelgrass in many systems other than Humboldt Bay due to Sea Level Rise  
Humboldt Bay has unique issues with its working waterfront  
Examples of CMPS, mitigation banks, etc throughout the state that Humboldt Bay could learn from and consider include the Navy, Bolsa Chica Wetlands, Batiquitos  
This Plan is infrastructure for dealing with issues strategically  
Much of eelgrass in Humboldt Bay is limited on upper end by desiccation stress  
Need to identify your goals for your plan

## **ROUNDTABLE COMMENTS AND QUESTIONS**

Pat Higgins (Harbor District)

Happy for consultant help. How long does disturbance to eelgrass last? Arch of recovery?  
Question of resilience –do you need to mitigate if grass will come back in a relatively short period of time? Appreciates scientific approach, adaptive management. Are there strategic data gaps that you can collect data for?

Keith Merkel (Merkel & Associates)

What is the magnitude of eelgrass resources presently that may be impacted by maintenance and planned infrastructure needs? Need to put eelgrass in context with other larger-scale restoration. Suggested Humboldt Bay eelgrass will become more important over time

Julie Neander (City of Arcata)

Does Sea Level Rise eelgrass expansion mean that Salt Marsh habitat is going to decline? Is that what the model says?

Whelan Gilkerson (Merkel & Associates)

Model is driven by suitable eelgrass depth range in Humboldt Bay, however, the continued expansion upward onto the flats by eelgrass is also dependent on expanding the tidal prism further shoreward. This would lead to the migration of both habitat types shoreward if allowed to do so.

Melissa Kraemer (California Coastal Commission)

An understanding of the purpose with respect to different types of ongoing impacts  
Scope of the plan's intent

Cassidy Teufel (California Coastal Commission)

Agree with Melissa's thoughts  
Newport Bay EMP is driven by particular projects.  
Identify a suite of projects that are the impetus for the work

Kasey Sirkin (ACOE)

Agreed  
Come up with realistic suite of activities/type of projects  
Important to look at from all agencies' perspectives, needs, mandates

Rebecca Garwood (CDFW)

Federal and State mandates join us all  
Make sure functions/values are maintained  
History of eelgrass mitigation  
Don't reinvent the wheel

Miles Scatterly (City of Eureka)

Would like to see the possibility of using dredge spoils explored

Aldaron Laird (Trinity Associates)

Diked tidelands, focus on restoring to saltmarsh. Won't support saltmarsh. Using fill to raise surface elevation, but don't have enough fill, might be more suitable for eelgrass?  
Native Olympia Oyster/eelgrass share resources in some areas?

Keith Merkel (Merkel & Associates)

It may be appropriate to look at habitat distribution reconfigurations based on the opportunities afforded by flooding some of the low elevation diked lands where mudflat shifts to the diked areas and the eelgrass is restored in the more open bay environments.

Lia Webb (GHD)

Humboldt Bay vs Newport Bay, more industry there, more money. How does this affect Humboldt Bay?

Keith Merkel (Merkel & Associates)

The challenge is how to implement a Southern California structure in a Northern California economy  
One goal would be to provide framework for how to capture something that people would be doing anyway

Pat Higgins (Harbor District)

Logical disconnect, if we advance recovery of eco system function, won't eelgrass proliferate?  
Do temporary impacts have to be mitigated?  
Won't the increase of eelgrass increase tidal flux, saltmarsh habitat, etc?

Keith Merkel (Merkel & Associates)

Remember, Federal and State no net loss mandate.  
Only get value for directed actions you have taken. Plan builds infrastructure to monetize value of other activities, direct other activities to create value. Lead framework toward partnership of resource management assets.

Mike Wilson (Harbor District)

Look at some of projects done successfully around the bay and others that didn't happen and see why they didn't? Example of one not done – King Salmon Dredging. How can plan help these plans come to success?

Keith Merkel (Merkel & Associates)

Keith went through a number of examples and methods for opportunistically developing eelgrass offsets for current and future projects by thinking strategically beyond the project and more towards system based material reuse for other restoration activities

King Salmon project was discussed including a number of aspects of the dredging and mitigation.

Matt Goldsworthy (NOAA/NMFS)

Like what I've heard so far

Inclusive of all activities in Bay would be good

Keith Merkel (Merkel & Associates)

Remember, the plan is a living document, it can be revised as needed

Rebecca Garwood (CDFW)

Pre-project surveys. Hold projects up to simple protocol for pre-con surveys

Need to make sure baselines are being done

**MEETING ADJOURNED – Jack Crider**