Humboldt Bay Eelgrass Management Plan:

Project Partner Meeting #2

Humboldt Bay Harbor, Recreation and Conservation District

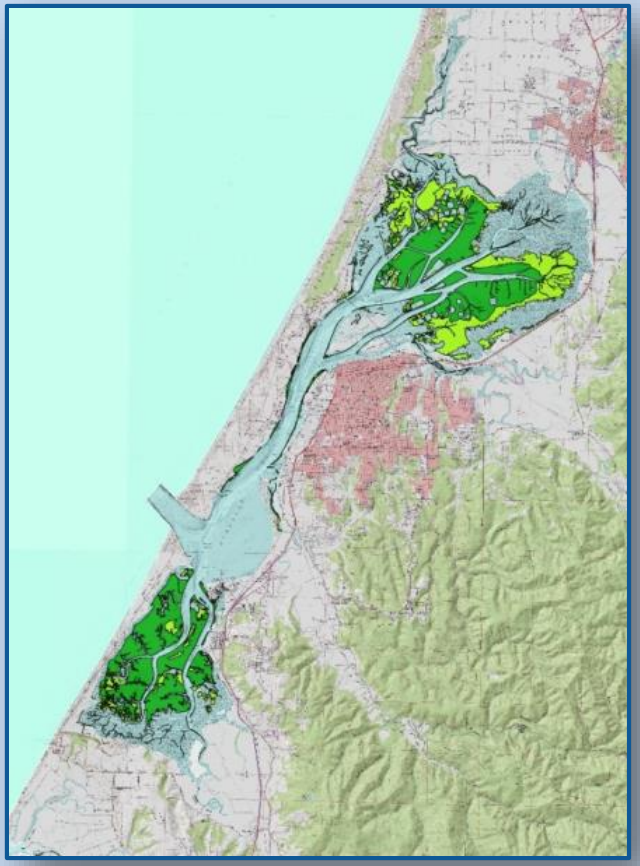
Merkel & Associates, Inc.

Outline

1) Humboldt Bay EMP Path Forward
2) Humboldt Bay EMP conformance Needs Relative to CEMP or Comprehensive Management Plan (CMP)
3) Up Front Criteria for Projects: How to determine whether a project may impact eelgrass and what to do about it
4) Avoidance, Minimization, and Mitigation Strategy & Considerations

Lunch Break

5) Eelgrass Mitigation/Conservation Spatial & Temporal factors
6) EMP Project Tracking and Mitigation Credit/Capture

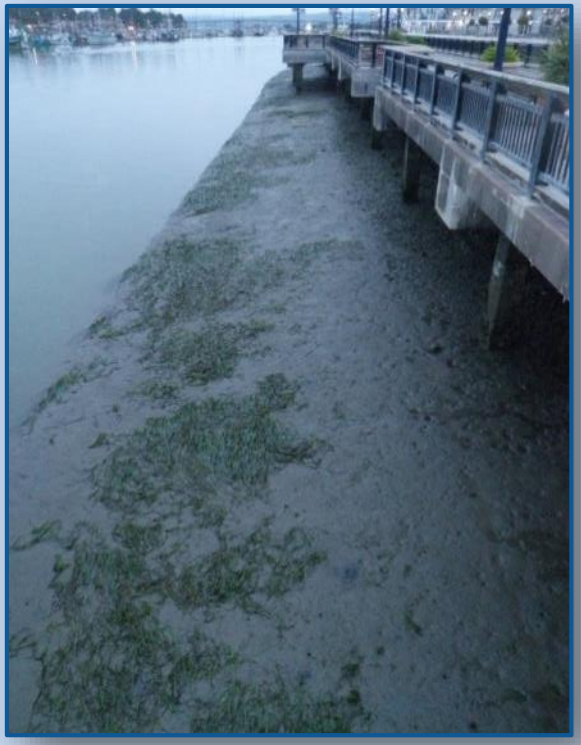


Humboldt Bay EMP Path Forward

- Work Plan (meetings, bay tours, plan drafting, Final workshop)
- Framework for Plan adoption

Humboldt Bay EMP conformance needs relative to CEMP or Comprehensive Management Plan (CMP)

- What do we draw from the CEMP?
- Where do we depart from it while maintaining consistency?



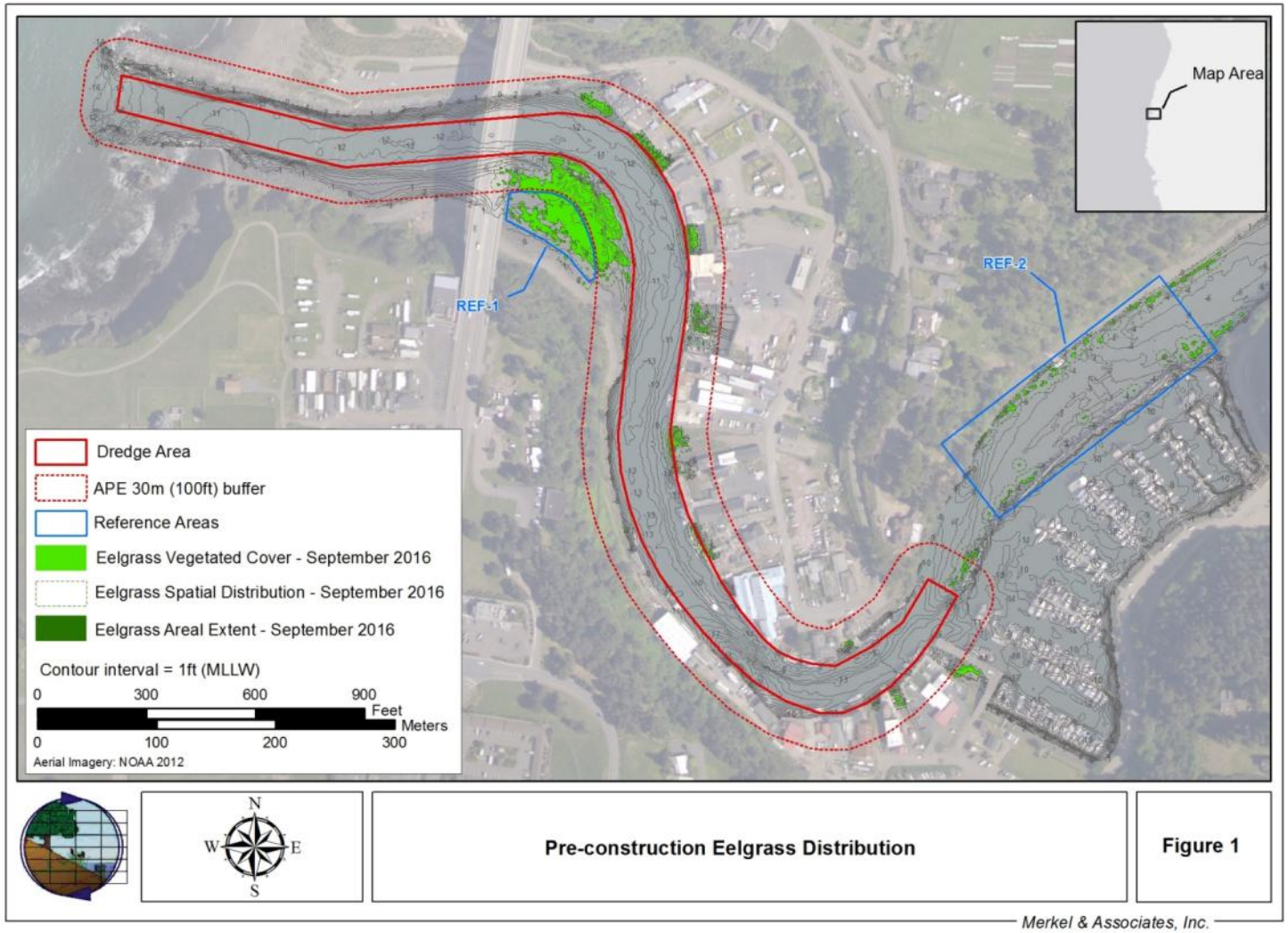
Drawing Guidance from the CEMP

- Planning & Design- Impact Avoidance/Minimization
- Impact Assessment & Monitoring
- Data Analysis & Reporting
- Final Mitigation Success Criteria

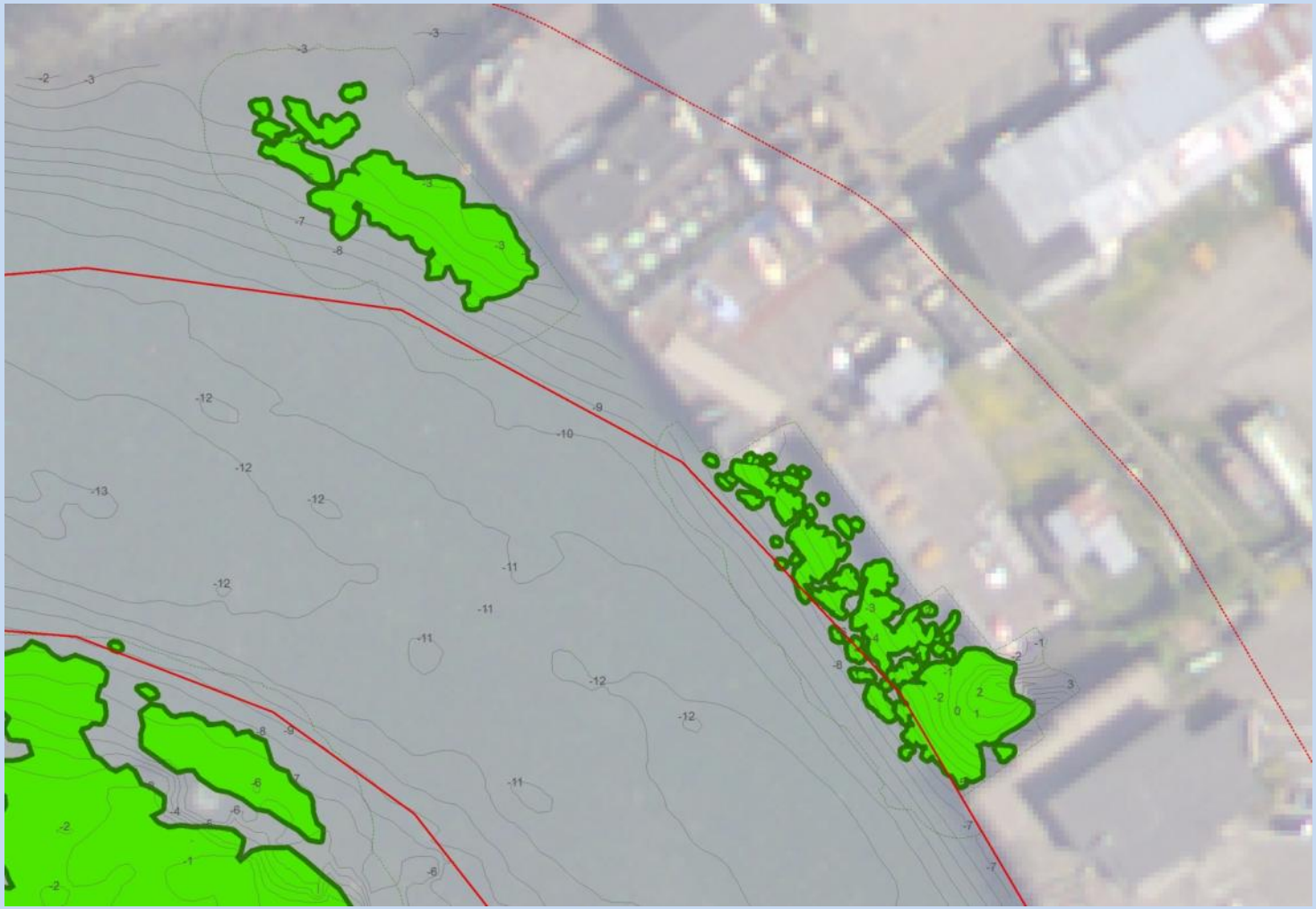
Eelgrass Spatial Metrics and Mapping

- High accuracy surveying/mapping critical to assessing and communicating eelgrass-project interactions
- CEMP standards for mapping accuracy 95%
- Important to establish a consistent standard for determining eelgrass vegetated cover, areal extent, and spatial distribution metrics

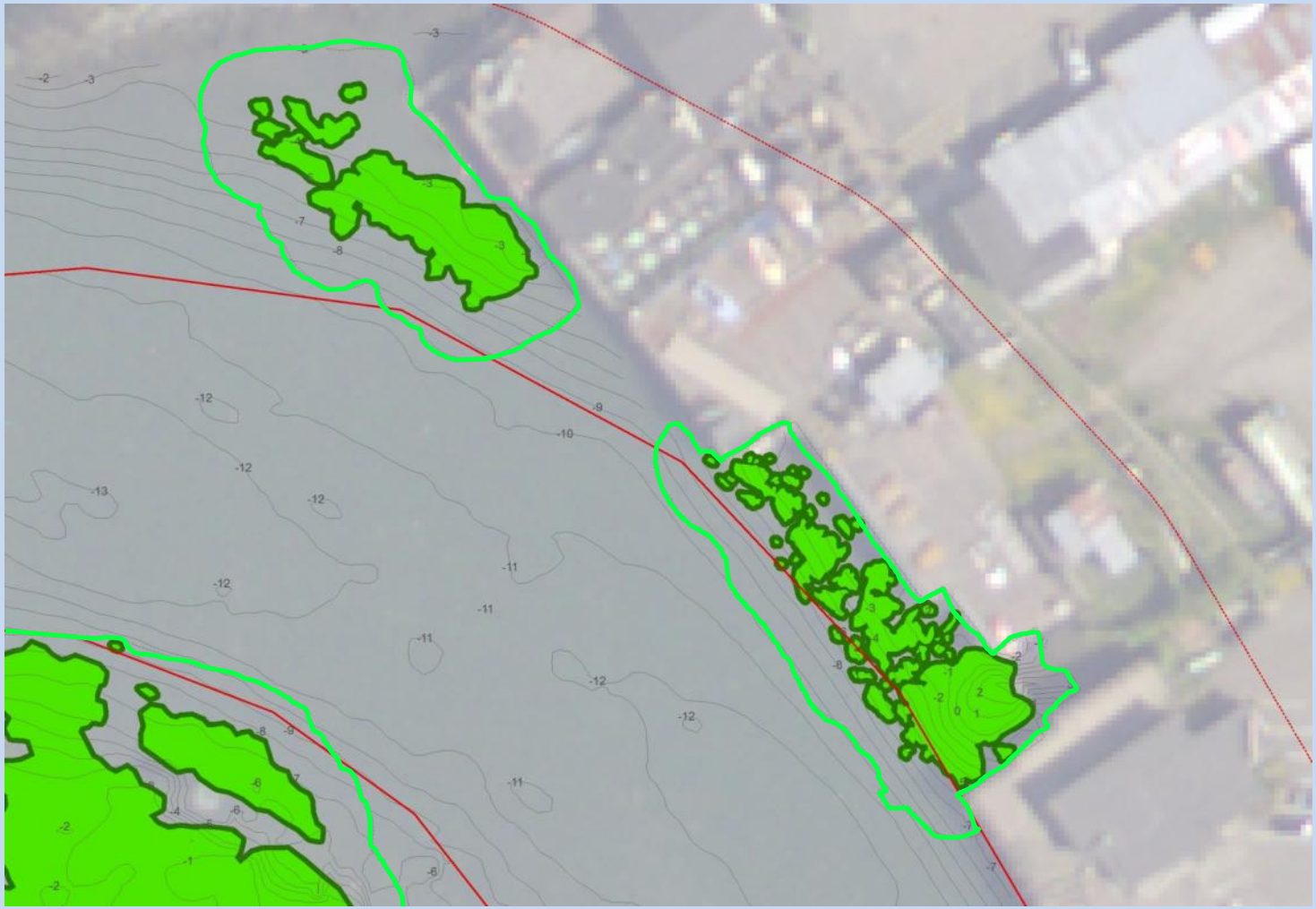
Eelgrass Spatial Metrics CEMP Standards



Eelgrass Spatial Metrics CEMP Standards cont.



Eelgrass Spatial Metrics CEMP Standards cont.



Departing from the norm

- Mitigation Strategies
- Mitigation Transplant Ratios
- Mitigation Credit Capture, Tracking, & Accounting

Up Front Criteria for Projects

How to determine whether a project may impact eelgrass and what to do about it

- Project Characteristics
- Planning Considerations
  - Preliminary survey vs mitigation & monitoring plan development

How to Determine Whether a Project May Impact Eelgrass and What to Do About It cont.

- Local Resources
  - (EMP, existing information, early contact with agencies and specialists)
- EMP Implementation & Project Checklist
  - Plan distribution and public/project applicant engagement (Harbor District)
  - Agency process support and dissemination
  - Project Checklist & FAQ component to facilitate education and communication

Avoidance, Minimization, and Mitigation Strategy & Considerations

- Methods for avoidance and minimization of impacts
- Opportunistic mitigation and site development
- Onsite vs offsite mitigation criteria
- Other considerations
  - Physical
  - Policy
  - Evaluation and tracking

Methods for Avoidance and Minimization of Impacts

- Project siting
- Project design
- Integration of restoration within project

Opportunistic Mitigation and Site Development

- Synergistic restoration of former tidelands
- Substrate Remediation
- Removal of derelict infrastructure

Onsite vs Offsite Mitigation Criteria

- Area of eelgrass impact relative to site's capacity to develop additional habitat

- Ownership/Jurisdiction/zoning considerations

Mitigation Strategy and Considerations

Mitigation Strategy and Considerations cont.

Reclaiming former tidelands increases tidal prism and promotes eelgrass expansion, often beyond the project area…

Mitigation Strategy and Considerations cont.

Substrate Remediation to Restore Historic Eelgrass Habitat

North Bay- Legacy bottom hardening site

- Outside current mariculture operations
- Approximately 1/3 -1/2 acre of eelgrass restoration capacity-patchy eelgrass surrounds site
- Landowner receptive to conservation easement
- Other similar opportunities exist- Challenges include: ownership and existing management

Eelgrass Mitigation/Conservation Spatial & Temporal factors

- Magnitude of Potential Impacts to Eelgrass within EMP Focus Area relative to System level Eelgrass Population
- Sea Level Rise/Climate Change- how to address it within the Plan

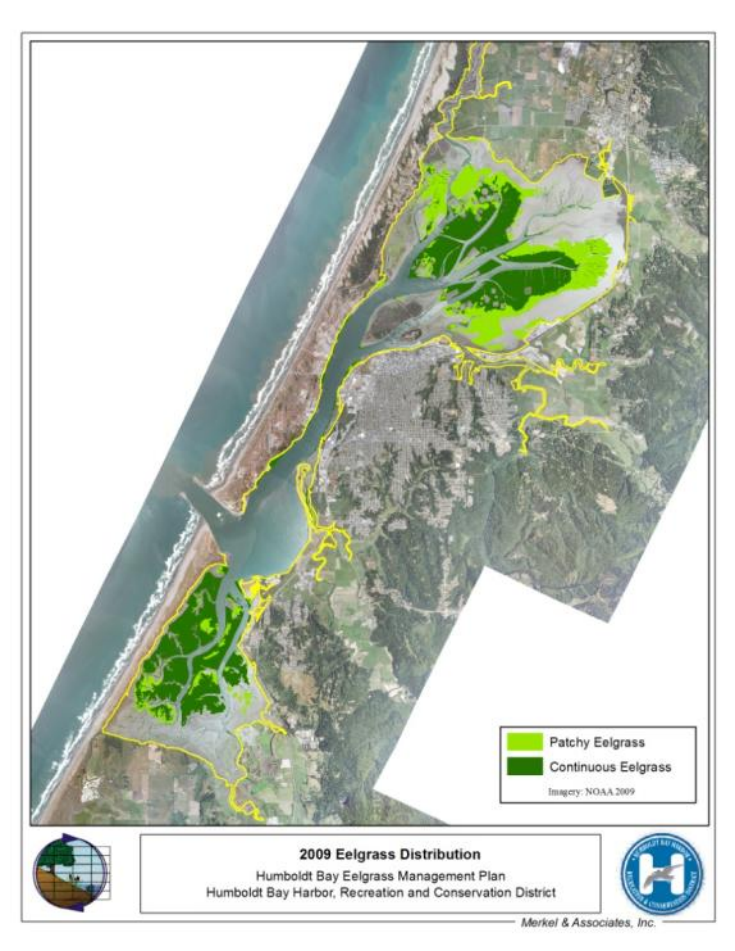
Humboldt Bay System Level Eelgrass Resources

2009 NOAA Humboldt Bay & Eel River Benthic Habitat Project

Continuous Eelgrass - **3,644 acres**

Patchy Eelgrass – **2,043 acres**

***5,687 total acres**

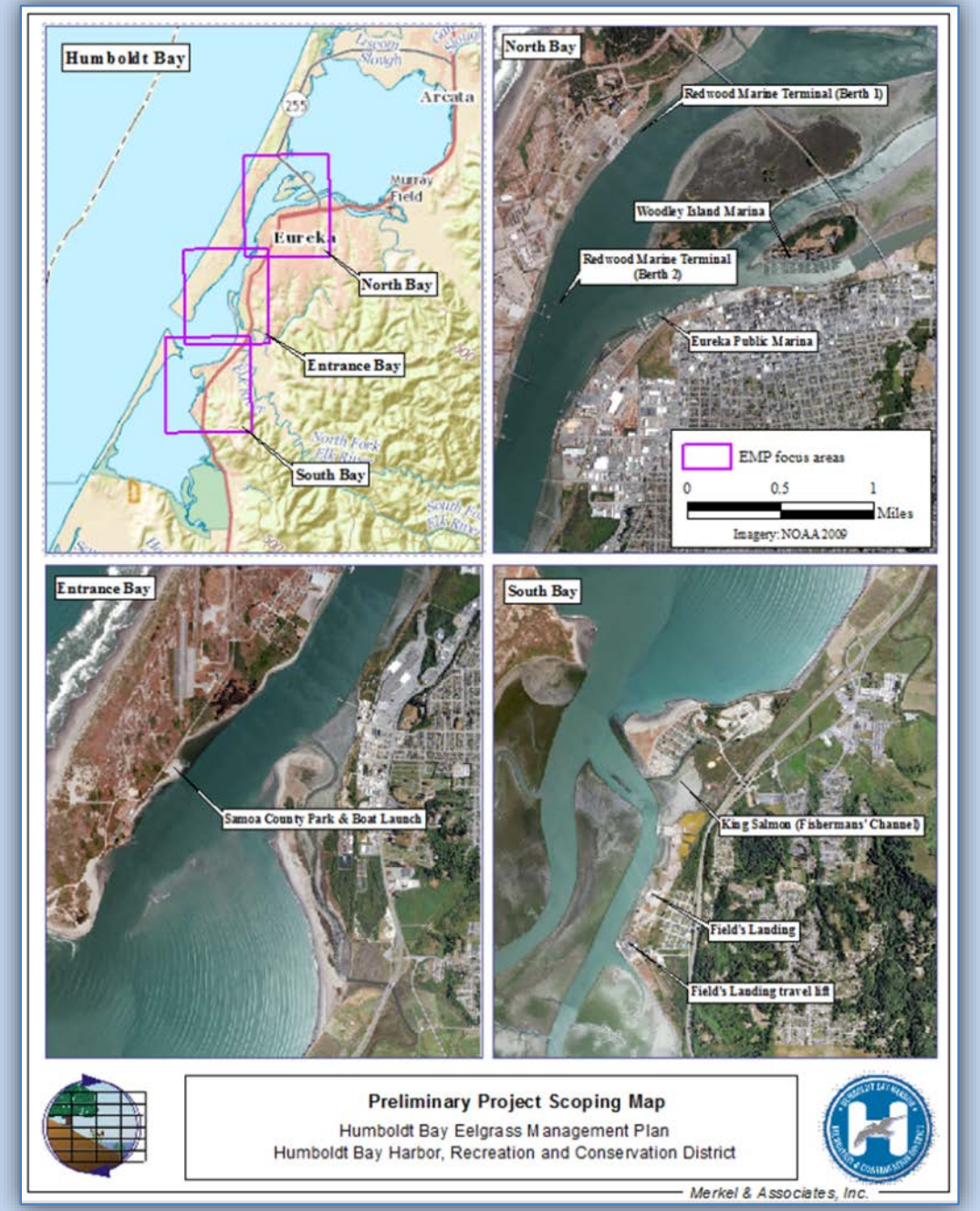


EMP Focus Area

Samoa, Fairhaven and Eureka's working waterfront

Entrance Bay/North Bay Channel

King Salmon and Fields Landing



Samoa, Fairhaven and Eureka's Working Waterfront

Entrance Bay/North Bay Channel

King Salmon and Fields Landing

Magnitude of Potential Impacts to Eelgrass within EMP Focus Area Relative to System level Eelgrass Population

	Continuous Eelgrass (acres)	Patchy Eelgrass (acres)	Percent of Humboldt Bay continuous Eelgrass	Percent of Humboldt Bay Patchy Eelgrass
Humboldt Bay	**3644**	**2043**		
EMP Focus Area (total)	**119**	**37**	**3%**	**2%**
Priority Projects in EMP Focus Area	**</= 10**	**</= 5**	**0.2%**	**0.2%**

Anticipated impacts to eelgrass very manageable in a system context

Sea Level Rise/Climate Change- how to address it within the Plan

- Managing Plan Focus Area vs System
- Policy-limitations including depth, coastal squeeze
- Active vs passive approach

EMP Project Tracking and Mitigation Credit/Capture

- Project Tracking
- Humboldt Bay EMP (CMP) as a mechanism for capture
- Relational database as a tool to standardize accounting

Mitigation Credit/Capture

- Potential incentive for maintaining the tracking system: HD retains the surplus that may result from successful project-level mitigation, shared value, recuperated costs?

- In lieu of a mitigation bank, CMP and database could provide an initial ‘market’ function.

- Capturing value within the regulatory frameworks available and desirable management planning structure.

  - In lieu fee program
  - SAMP
  - Mitigation Bank
  - RGPs
  - Other

Questions?