

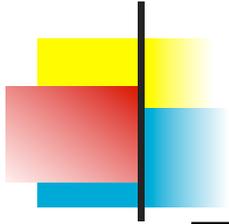
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San Francisco District

Middle Harbor Enhancement Area Oakland, CA Progress and Status

Presentation to the SF Bay Conservation
and Development Commission
July 16, 2015

US Army Corps of Engineers
Port of Oakland





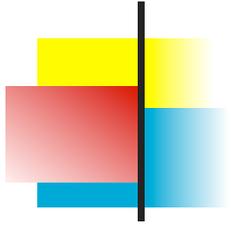
Middle Harbor Enhancement Area (MHEA)



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- Purpose
- Status
- Next Steps
- Budget
- Future

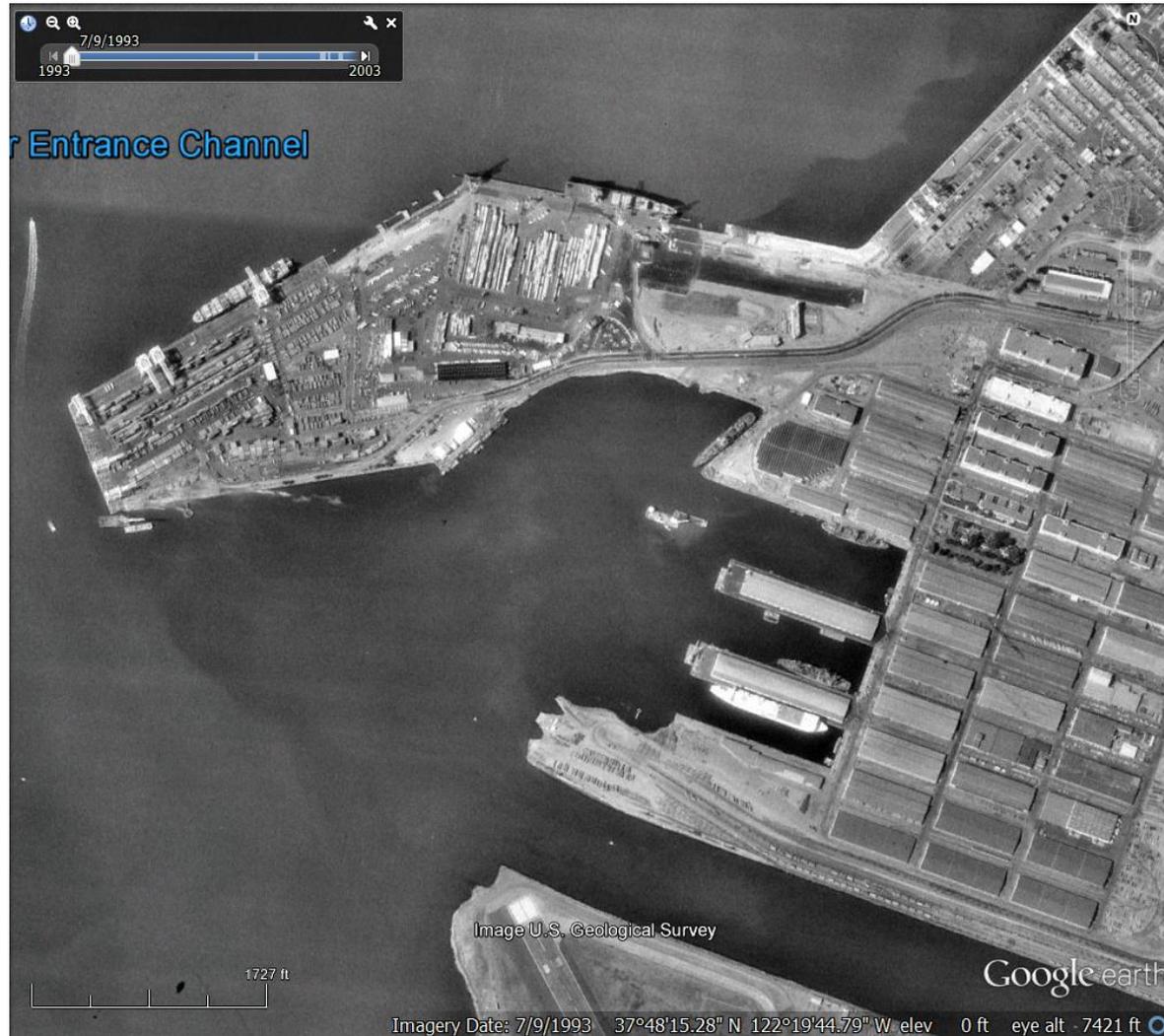


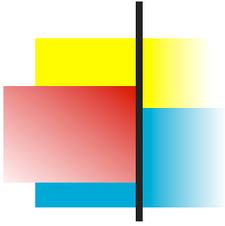


Middle Harbor in 1993



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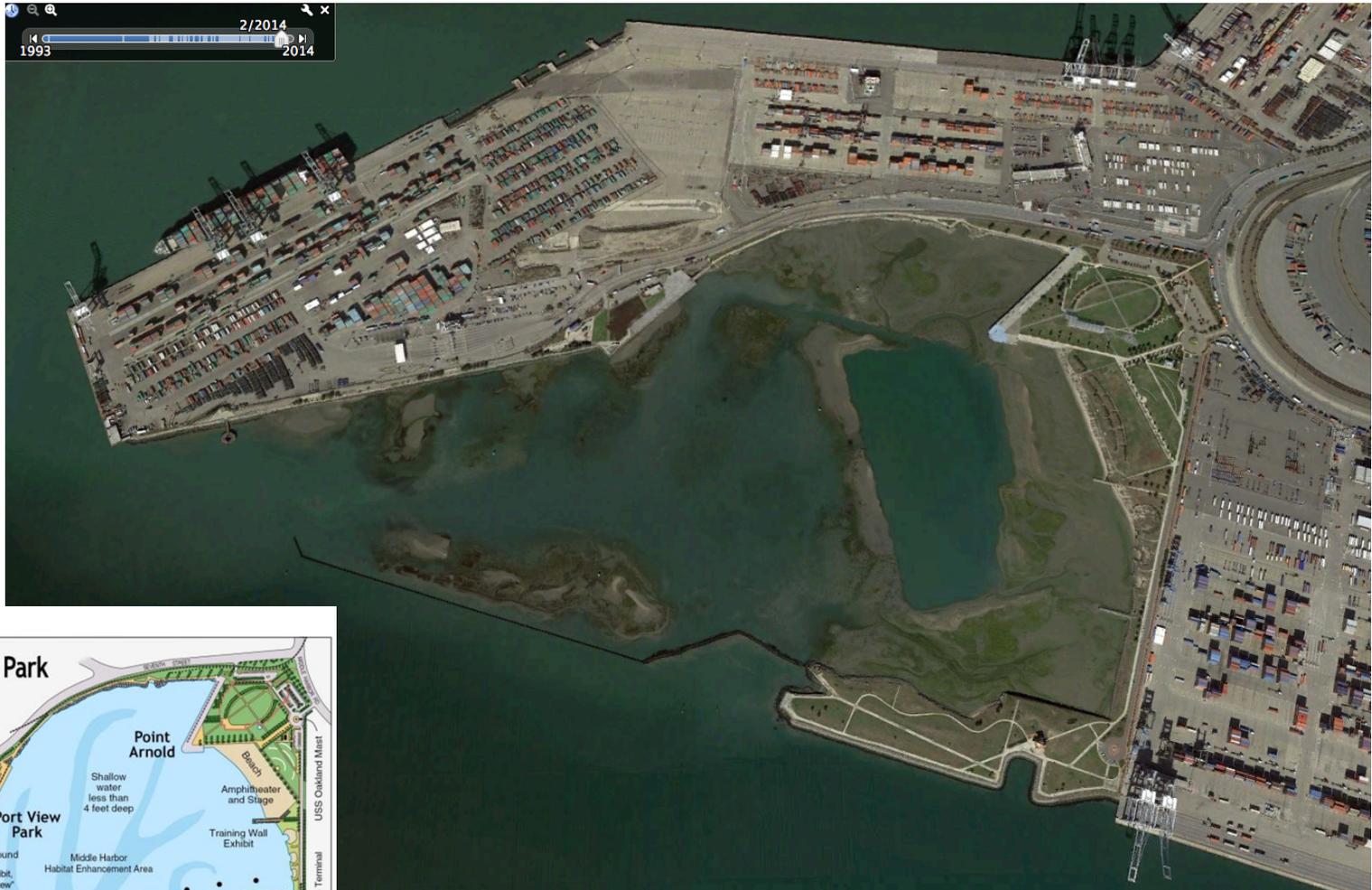




Middle Harbor Today



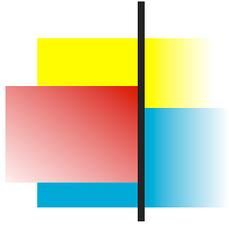
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Final Design



PORT OF OAKLAND



Purpose of MHEA

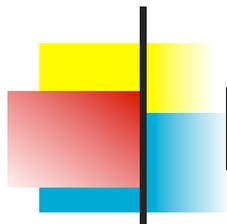


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Restore 181 ac. shallow water habitat and create eelgrass habitat using sand and mud from -50' channel deepening project.

- Design by Technical Advisory Committee
- 10-year performance evaluation period
- Cost effective placement of dredged material enabled Hamilton & Montezuma restoration sites





Design and Target Habitats



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Bathymetry

Eelgrass

Salt marsh

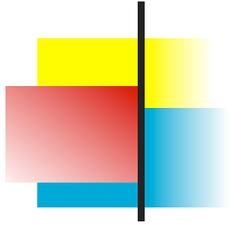
Bird roosts

Fish habitat

Coves

Human use





Status and Next Steps



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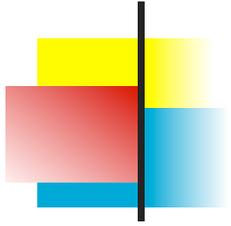
Since placement of material:

- Consolidation of 5.8 million cubic yards (cy) of mud and sand, initial grading

Next Steps (2015 to 2016):

- Final sculpting of ~400,000 cy of sediment
- Relocate rock from jetty to bird islands
- Open MHEA to full tidal circulation, construct marsh for educational purposes



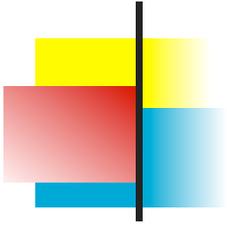


Interim habitat



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Future Work

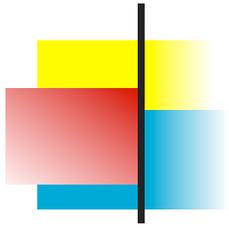


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- Consult with TAC
- Validate tidal flow conditions from predictive modeling
- Plant eelgrass
- Monitor, manage, maintain for 10 yrs





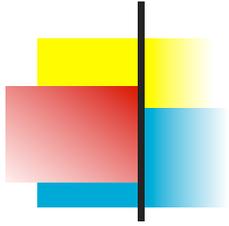
Project Funding



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Cost to Construct:	approx. \$66.8M
Expenditures to Date:	approx. \$57.4M
Cost to Complete:	approx. \$ 9.4M
FY 2015 Work Allowance:	\$ 6.0M
FY 2016 President's Budget:	\$ 1.2M
Future funding:	\$ 2.2M*

*contingent on Federal appropriations & Port cost share



Schedule



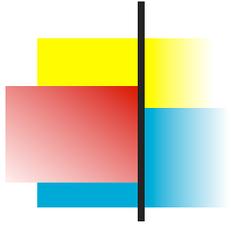
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CY 2015: Award and execute contract for final grading; remove/lower east jetty; construct bird islands; update TAC on status; consult with eelgrass habitat experts.

CY 2016: Award and execute contract for hydrodynamic modeling and field measurements to verify performance of the design.

CY 2016 to 2017: Award and execute contract for eelgrass planting.





Schedule (cont.)

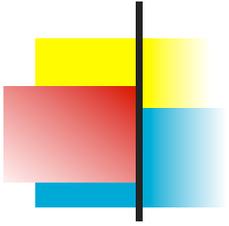


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2017 to 2027: USACE performs monitoring, management and maintenance for 10 years. Report periodically to TAC on eelgrass and species monitoring and site management.

2027 and beyond: Port of Oakland assumes long-term site management and maintenance.



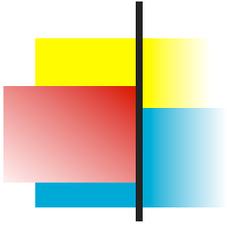


Questions?



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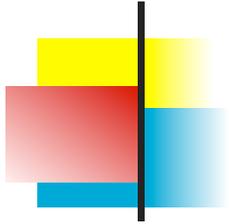




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Performance Standards





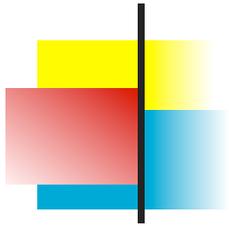
MHEA performance standards and schedule



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STANDARDS	COMPLETED AND UNDERWAY
<p>Provide new public access beach area that will also provide storm refuge to birds.</p>	<p><i>When:</i> completed as part of Berths 55-58/ Middle Harbor Shoreline Park work.</p> <p><i>How:</i> Confirm beach construction under Port's project by completion of topographic survey.</p>
<p>Create a minimum of 55 acres of habitat suitable for eelgrass habitat development, 110 acres of other shallow water.</p>	<p><i>When:</i> completion of final construction; completion of site suitability evaluation and warranty period</p> <p><i>How:</i> hydrographic and topographic survey (at construction);</p> <p><i>How:</i> measurement and assessment of physical conditions developed, as well as comparison to modeling results</p>





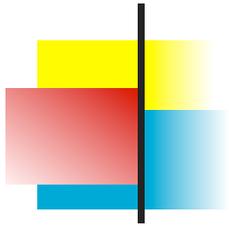
MHEA performance standards and schedule



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STANDARDS	2015-16 CONSTRUCTION
Provide a new 3-5 acre marsh to provide bird foraging opportunities and educational/ interpretive benefits.	<i>When:</i> completion of final construction; 10 years after initiation of dredging. <i>How:</i> topographic survey (at construction); <i>How:</i> assessment of vegetation and avian use (over 10 years)
Provide improved bird habitat, with reduced predators and human disturbance through construction of four avian islands, each being a maximum size 5,000 sq. ft. and by providing a protected area along the shoreline of the UP Mole.	<i>When:</i> completion of final construction; 10 years after initiation of dredging. <i>How:</i> topographic survey (at construction); <i>How:</i> assessment of vegetation and avian use (over 10 year)
Provide 4-8 acres of hard bottom habitat (approximately 4 acres presently exists)	<i>When:</i> completion of final construction. <i>How:</i> site survey at completion.





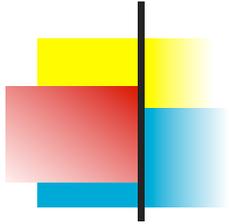
MHEA performance standards and schedule



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STANDARDS	BY END OF 10 YEAR MONITORING
<p>Create a minimum of 15 acres of eelgrass habitat within 10 years after initiation (start of dredging) of project not including that planted in the previous 3 years.</p>	<p><i>How:</i> annually evaluate eelgrass cover and density throughout site and reference areas using side-scan sonar and diver verification <i>How:</i> compare eelgrass cover with reference areas to control for natural interannual variability in eelgrass.</p>
<p>Provide an estuarine community within MHEA that is of higher productivity and greater diversity than the existing community of Middle Harbor. Provide a habitat that is more highly productive than existing conditions and provides a net increase in habitat value.</p>	<p><i>How:</i> evaluation of plant, invertebrate, fish, and avian communities relative to baseline Middle Harbor conditions reported in prior studies.</p>





MHEA performance standards and schedule



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STANDARDS	BY END OF 10 YEAR MONITORING
<p>Increase habitat benefits for aquatic birds and most particularly the least tern colony, by increasing habitat and the productivity of fisheries. Of specific interest is the enhancement of least tern prey species which may improve foraging opportunities for terns.</p>	<p><i>How:</i> evaluate availability of forage species and size classes consumed by avifauna, and specifically least terns.</p>
<p>Provide a greater number of fish than existing conditions</p>	<p><i>How:</i> evaluation of fish communities relative to baseline conditions reported in prior studies.</p>

