



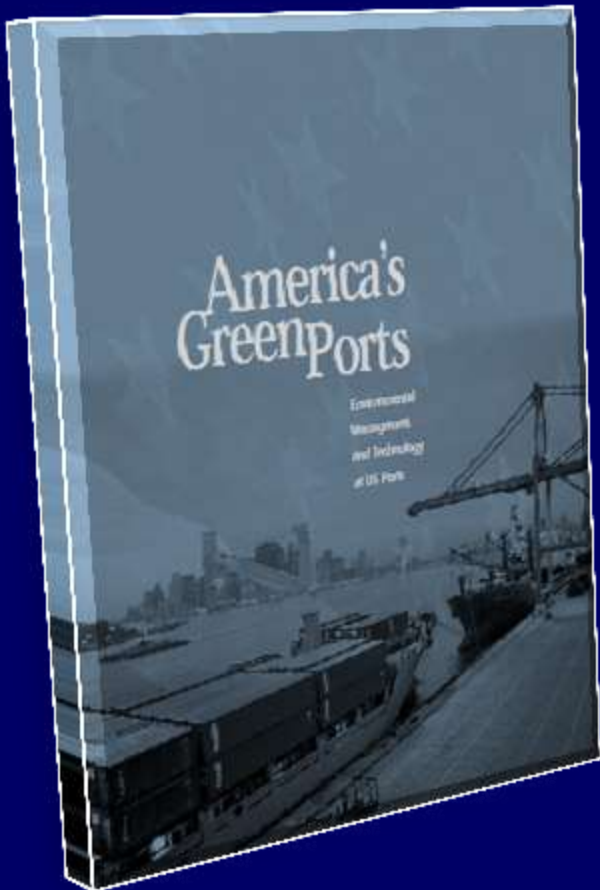
# AMERICA'S GREEN PORTS

Environmental Management and Technology at U.S Ports



National Working Waterfronts & Waterways Symposium  
Tacoma, Washington  
March 27, 2013

Urban Harbors Institute  
University of Massachusetts Boston



Funded by the US EPA, 2000

Contacted 110+ US coastal,  
Great Lakes, and river ports

Collected 177 projects

**Final Report**

22 ports and 31 projects

# AMERICA'S GREEN PORTS

Environmental Management and Technology at U.S Ports



## Issues related to port development and operations

- air pollution
- brownfields
- dredge disposal and contaminated sed.
- endangered and threatened species
- habitat restoration
- land-based water pollution
- landscaping/beautification
- oil pollution
- regulatory compliance
- ship/port generated waste
- stewardship/partnerships

# AMERICA'S GREEN PORTS

Environmental Management and Technology at U.S Ports

## Evaluation Criteria

- innovation/uncommon
- transferable
- response to EPA or government initiative
- degree of complexity
- port size and capacity
- importance of problem
- significance and breadth of benefits
- effectiveness and results
- acknowledgement by others
- regulatory approvals



# AMERICA'S GREEN PORTS

Environmental Management and Technology at U.S Ports

Port of Los Angeles: Tug Boat  
Engine Retrofit

air quality

MassPort: Boston Harbor  
Navigation Improvement

dredging

Illinois Port: Landfill Redevelopment

Brownfields

Port of Houston: Oyster Reef  
Construction

Habitat  
Restoration

Port of San Diego: Heavy Metal  
Treatment Alternative

Contaminated  
Sediments



# Port of Boston

Massport

Major maritime facilities:

Conley Terminal

Black Falcon Cruise Terminal

Boston Fish Pier

Boston Autoport

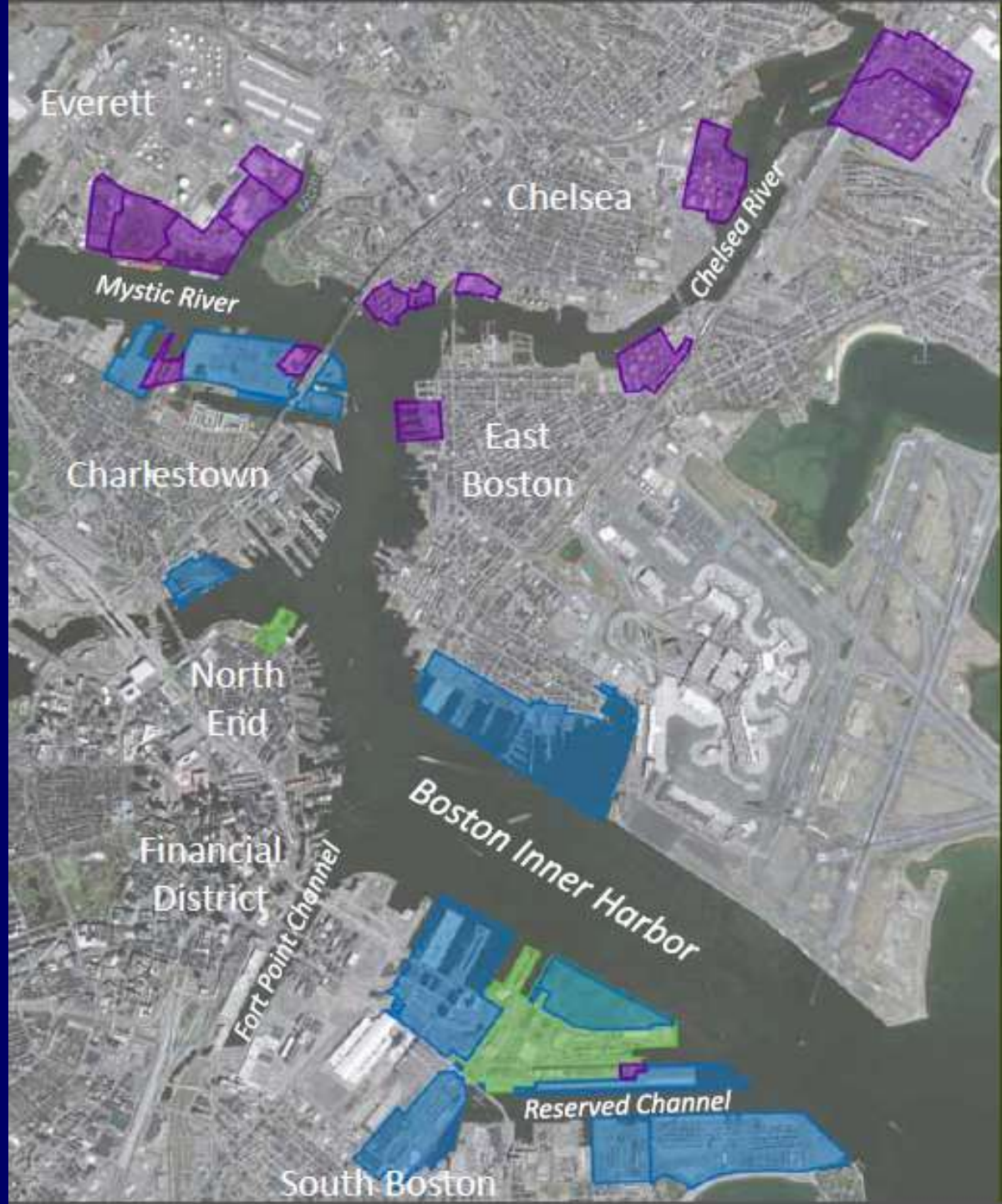
Massport property



Other public



Private port facilities



# Massport Environmental Initiative Policy

. . . reduce impact on air and water quality and increased energy efficiency.

- Solar panels on Terminal B Garage to generate power and LED lighting to reduce electricity consumption by 49%.
- Power stations at Boston Fish Pier so fishing boats and visiting vessels can turn off diesel engines and “plug in” for electricity with grant from USEPA.
- Wind turbines installed on the roof of Logan Office Center
- CNG buses: more than 13 million "clean air miles."
- Conley Terminal Environmental Management System and ISO 14001 Certification
- Recycling of specialized waste
- Equipment retrofits and Green equipment replacement program
- Truck idling reduction
- Designated/dedicated truck routes
- Buffer zones

80

# WIND TECHNOLOGY TESTING CENTER LARGE BLADE TEST FACILITY



MASSACHUSETTS  
CLEAN ENERGY  
CENTER







# Port of New Bedford

## Harbor Development Commission

- Manages municipal waterfront assets (piers, properties and facilities);
- Support economic development along the waterfront.
- Authority for planning, developing, and financing for city properties within the Port.





## Current Green Port Initiatives

- Harbor sediment cleanup: PCBs, metals.
- Established fishing for energy recycling program
- Modern trash shed with built-in traps in event of accidental spills/leakage
- Established best management practices for conducting operations at pier
- Recycled tire pier fendering system along bulkhead
- Harbor-wide anti-idling policy

## Future

- Renewable energy technology
- Short Sea Shipping
- Alternative Fuels



# New Bedford Marine Commerce Terminal

Proposed hub for the construction  
of offshore wind energy projects

- 1000' extension of bulkhead for large vessel berthing
- Construct 28+ acres with 17 acre heavy lift capacity area
- Dredging for deep draft access



## Environmental Benefits

- Removal of ~225,000 cy of PCB-contaminated sediments.
- Beneficial reuse of dredged sediment in facility
- Proper capping of contaminated soils in CAD cells
- Creation of resource areas for ecological improvements.

One acre of saltmarsh restoration

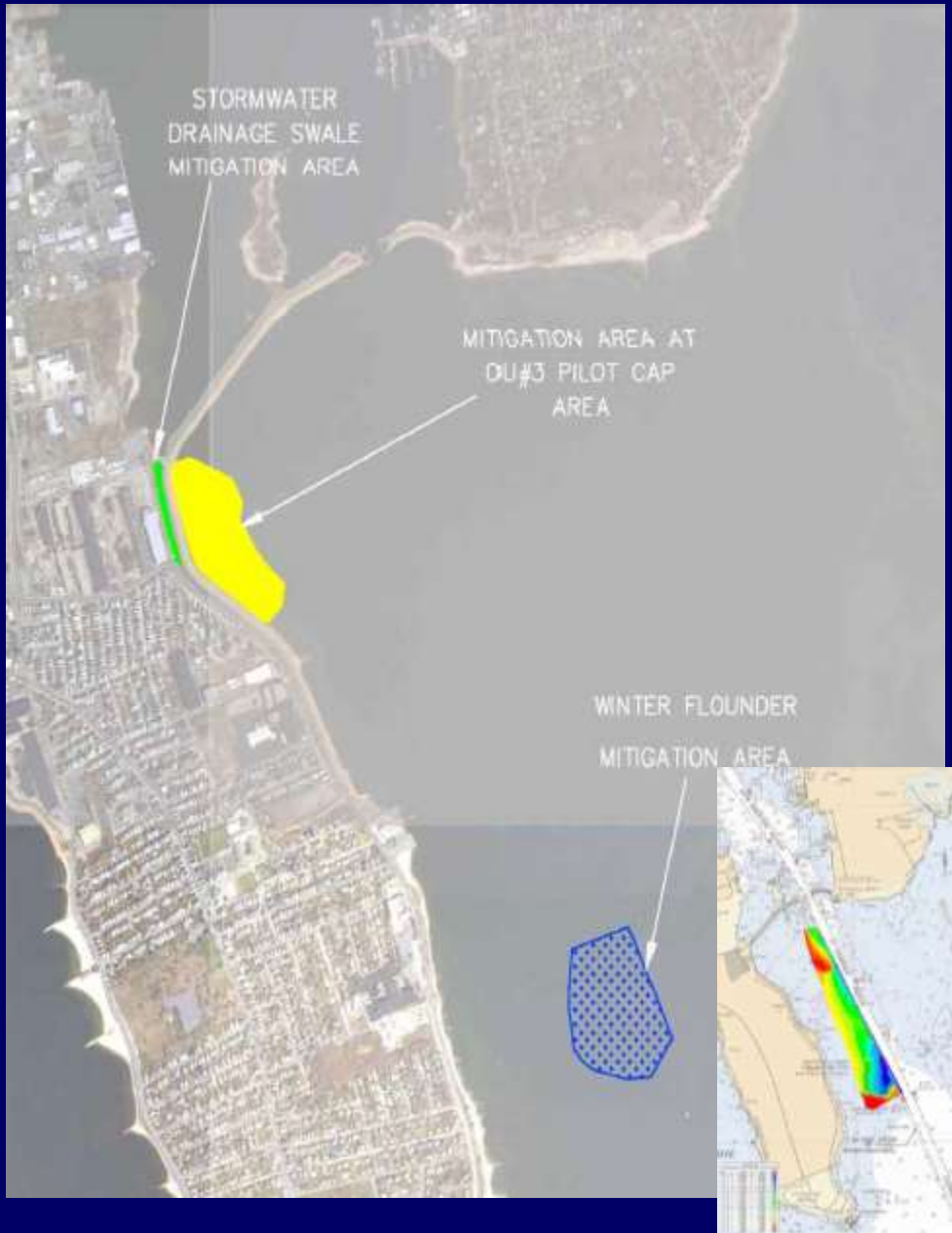
22.5 acres winter flounder spawning habitat

4.5 acres intertidal habitat creation

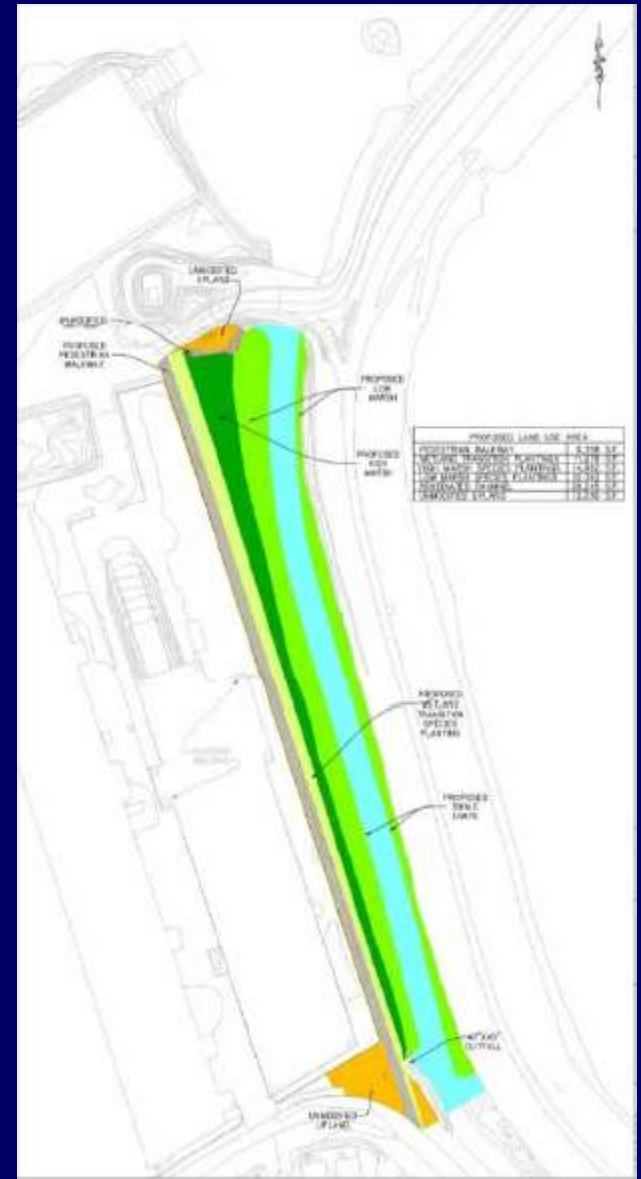
Plant 24 million seed shellfish on ten acres over 15 years

- Displaced moorings to be moved to newly dredged area





Intertidal area and flounder habitat



Stormwater drainage swale; wetland creation

