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
Issues related to port development and operations

- air pollution
- brownfields
- dredge disposal and contaminated seds.
- endangered and threatened species
- habitat restoration
- land-based water pollution
- landscaping/beautification
- oil pollution
- regulatory compliance
- ship/port generated waste
- stewardship/partnerships
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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
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Port of Los Angeles: Tug Boat Engine Retrofit
MassPort: Boston Harbor Navigation Improvement
Illinois Port: Landfill Redevelopment
Port of Houston: Oyster Reef Construction
Port of San Diego: Heavy Metal Treatment Alternative

air quality
dredging
Brownfields
Habitat Restoration
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 off 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
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
Stormwater drainage swale; wetland creation

Intertidal area and flounder habitat