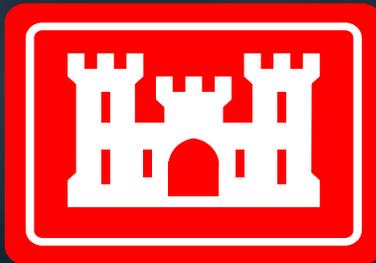


U.S. Army Corps of Engineers, Baltimore District Dredged Material Management Plan for the Port of Baltimore



April 14, 2004 Presentation to the CAC



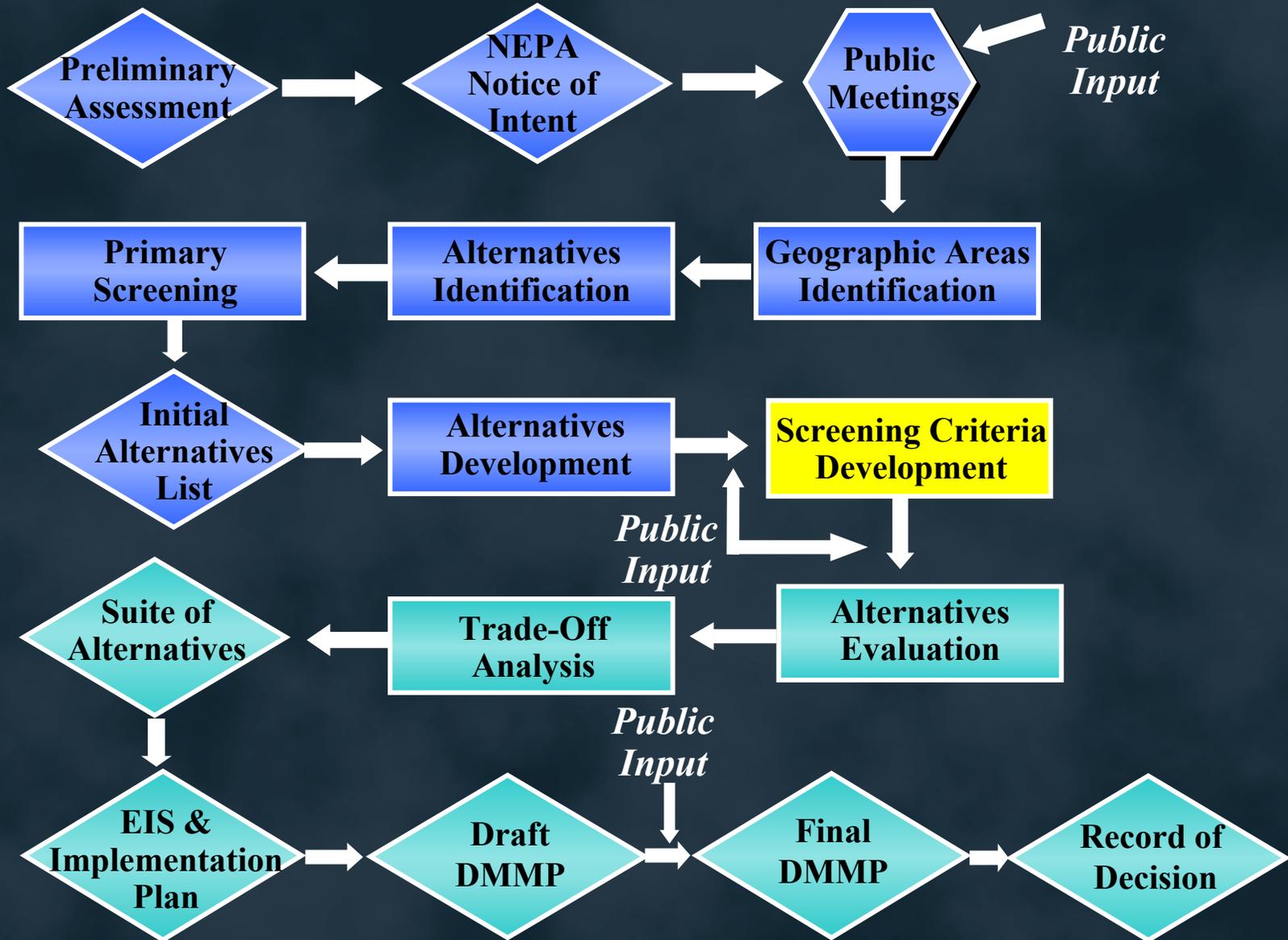
Summary of Feb 11th CAC Meeting

- Identified Goals and Purpose of Federal DMMP
- Compared State DMMP and Federal DMMP for similarities and differences
- Described how Federal DMMP will be prepared and coordinated with State DMMP process
- Defined types of Alternatives being considered
- Presented Alternatives for each of the 4 geographic areas
- Introduced approach for how alternatives will be compared

Goals for Tonight's CAC Meeting

- Highlight current activities in the Federal DMMP Process
- Revisit Alternatives being considered
- Review Alternatives Screening Process
- Describe BEWG Environmental Scoring Process and present their results
- Present approach for costing each alternative
- Update Schedule

DMMP Study Flow Chart



KEY:

Steps Completed

Steps Underway

Future Steps

DMMP Geographic Area Boundaries



DMMP Alternatives

- Programmatic
 - Not site specific
 - Example locations chosen for cost estimates
- Representative
 - Alternatives based on assumptions of material suitability, configuration, design and capacity
 - Viable location areas were chosen to enable costing
 - Not necessarily the specific site at which an alternative may be located
 - Doesn't preclude the consideration of other sites in future studies

DMMP Potential Alternatives

USACE Baltimore Harbor & Channels DMMP Alternatives	Harbor Channels	C&D Approach Channels	Ches Bay Approach (MD)	Ches Bay Approach (VA)
Agricultural Placement -- Maryland	■	■	■	
Agricultural Placement -- Virginia				■
Artificial Island Creation -- Lower Bay				■
Artificial Island Creation -- Upper Bay	■	■	■	
Beach Nourishment -- Virginia				■
Building Products	■	■	■	■
C&D Canal Upland Sites Expansion	■	■	■	
Capping -- Landfill/Brownfields	■	■	■	■
Capping -- Elizabeth River, VA				■
Capping -- Patapsco River, MD		■	■	
Confined Aquatic Disposal Area -- Patapsco River, MD	■			
Confined Disposal Facility -- Lower Bay				■
Confined Disposal Facility -- Patapsco River, MD	■			
Cox Creek Expansion	■			
Hart-Miller Island Expansion	■	■	■	
Large Island Restoration -- Lower Bay				■
Large Island Restoration -- Mid Bay	■	■	■	

DMMP Potential Alternatives

USACE Baltimore Harbor & Channels DMMP Alternatives	Harbor Channels	C&D Approach Channels	Ches Bay Approach (MD)	Ches Bay Approach (VA)
Mine Placement -- Cecil County, MD	■	■	■	
Mine Placement -- Western Maryland	■	■	■	
Norfolk Ocean Open Water Placement		■	■	■
Pooles Island Open Water Site Expansion		■	■	
Poplar Island Expansion		■	■	
Rappahannock Shoal Open Water Site Expansion		■	■	■
Shoreline Restoration -- Lower Bay				■
Shoreline Restoration -- Mid Bay	■	■	■	
Shoreline Restoration -- Upper Bay	■	■	■	
Small Island Restoration -- Lower Bay				■
Small Island Restoration -- Mid Bay	■	■	■	
Wetlands Restoration -- Dorchester County, MD	■	■	■	
Dam Neck Ocean Open Water Placement (Existing)				BASE
Hart-Miller Island (Existing)	BASE	■	■	
New Open Water Placement -- Mid Bay (Deep Trough)		■	BASE	
Pooles Island Open Water Site (Existing)		BASE		
Rappahannock Shoal Deep Alternate Open Water Site (Existing)		■	■	BASE
Wolf Trap Alternate Open Water Placement (Existing)		■	■	BASE

Screening Criteria Approach

- Each Alternative will be screened for
 - Environmental Factors
 - Used Bay Enhancement Working Group (BEWG) Criteria
 - Cost
 - Capacity

BEWG Environmental Scoring

- Who – Federal & State Agencies and interest group representatives
- When – March 2004 for the Federal Alternatives
- Why
 - Provided consistency in environmental evaluation between State and Federal DMMP efforts
 - Utilized an established group which included the subject matter experts

BEWG Environmental Scoring Process

- Referenced Past Scoring Efforts
- Considered 10 Criteria Categories

Water Quality	Waterbirds
Aquatic Habitat	Terrestrial
Wetlands	Physical Parameters
Aquatic Biology	Human Use Attributes
Protected Species	Beneficial Attributes

- Scored each Federal DMMP Alternative
 - +1 potential protection or enhancement
 - 0 no impact expected
 - -1 potential negative impact

BEWG Environmental Scoring Matrix

- Distribute and review BEWG Matrix

Cost Evaluation for DMMP Alternatives

- Establish Basis of Assumptions
- Prepare cost estimates for each of 77 alternatives
- Consider all cost elements from concept through O&M
 - Initial Study, Permitting, and Design
 - Site development and closeout
 - Dredging, transport, and Placement
 - Habitat Development
 - Operations & Maintenance
 - Other as applicable

Cost Example - Agricultural Placement for C&D Approach Channels Material

DRAFT COST ESTIMATE EXAMPLE

SCREENING LEVEL COST ESTIMATE

CHANNEL APPROACH C&D Approach Channels

ALTERNATIVE Agricultural Use - Wet Placement

COMPONENT/ITEM	METHOD/EQUIP USED	QUANTITY	BASIS FOR QUANTITY	UNIT	UNIT COST	BASIS FOR UNIT COST	TOTAL COST
A. Initial Study/Permitting/Design Costs							
Site Evaluation and Selection							
Site Design							
Permitting							
Access Agreements							
Farmland Lease/Compensation							
B. Site Development Costs							
Construction of Temporary Berms							
E& S and Stormwater Controls							
C. Dredging, Transport and Placement Costs							
Mobilization/Demobilization							
Dredging of Material from Channel							
Transportation of Dredged Mat'l to Dewater Site							
Transfer/Unloading to Stationary Barge							
Hydraulic Transfer to Placement Site							
Relocate Barge and Piping							
D. Amendment & Tilling Costs							
Lime Amendment and Tilling - Mix with 1 ft. Existing Soils							
E. Habitat Development Costs							
F. Placement Site Operations & Maintenance							
Annual Monitoring & Reporting of Facility							
Annual Monitoring and Reporting of Habitat							
SUBTOTAL							
CONTINGENCY (20%)							
TOTAL							
TOTAL UNIT COST PER CUBIC YARD							

DMMP Alternatives Trade-off Analysis C&D Approach Channels

- Compare cost, capacity, and environmental impact for alternatives in each geographic area

ALTERNATIVE	ENVIRONMENTAL SCORE ¹	SIZE (ACRES) ²	ENV. SCORE x SIZE	TOTAL CAPACITY (yd ³)	COST		
					TOTAL	\$ per CUBIC YARD	\$ per ENV SCORE
1 Agricultural Placement- Maryland	2.409	325	783	500,000	\$ 16,000,000	\$ 32.00	\$ 20,436
4 Artificial Island Creation- Upper Bay							
6 Building Products							
7 C&D Canal Pierce Creek Upland Sites Expansion							
8 Capping- Landfill/Brownfields							
11 Confined Aquatic Disposal Pit- Patapsco River, MD							
13 Confined Disposal Shoreline Facility- Patapsco River, MD							
15 Hart-Miller Island Expansion							
17 Large Island Restoration- Mid Bay							
18 Mine Placement- Cecil County, MD							
19 Mine Placement- Western Maryland							
20 Norfolk Ocean Open Water Placement							
21 Pooles Island Open Water Site Expansion							
22 Poplar Island Modification							
23 Rappahannock Shoal Open Water Site Expansion							
25 Shoreline Restoration- Mid Bay							
26 Shoreline Restoration- Upper Bay							
28 Small Island Restoration- Mid Bay							
29 Wetland Restoration- Dorchester County, MD							
Base Plans							
B2 Hart-Miller Island (Existing)							
B3 New Open Water (Deep Trough)							
B4 Pooles Island Open Water Site (Existing)							
B5 Rappahannock Shoal Deep Alternate Open Water Site (Existing)							
B6 Wolf Trap Alternate Open Water Placement							

June 9th CAC Meeting Alternatives Evaluation

- Present cost, capacity, and environmental impact tables for all alternatives within each geographic area
- Discuss approach to selecting suite of alternatives for each geographic area

Schedule

- Environmental Screening Evaluation for CAC 14 Apr 04
- Receive comments on Environmental Screening from CAC 28 Apr 04
- Alternatives Evaluation for BEWG 8 Jun 04
- Alternatives Evaluation for CAC 9 Jun 04
- Draft DMMP & Tiered EIS Oct 04
- Final DMMP & Tiered EIS Apr 05
- Record of Decision May/Jun 05

CENAB DMMP - POC's

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CENAB DMMP

For additional information visit the CENAB
DMMP Website:

**[www.nab.usace.army.mil/projects/
MARYLAND/DMMP/index.htm](http://www.nab.usace.army.mil/projects/MARYLAND/DMMP/index.htm)**

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