POPLAR ISLAND ENVIRONMENTAL RESTORATION PROJECT: THE ROLE OF STAKEHOLDER PARTNERSHIP IN IMPLEMENTATION

Frank L. Hamons[1] and Daniel A. Wilson[2]

ABSTRACT

Providing safe passage to the Port of Baltimore includes maintenance of an extensive infrastructure system consisting, in part, of approximately 130 miles (209 kilometers) of navigation channels. Annual maintenance includes approximately 3.2 million cubic yards (2.4 million cubic meters) of dredged material from navigation channels in Maryland Waters of the Chesapeake Bay. Meeting the placement need for such a large volume of material in the Baltimore/DC metropolitan area presents unique environmental, engineering, institutional, and social challenges. The Poplar Island Environmental Restoration Project exemplifies the partnering approach instrumental in meeting these challenges. The Project utilizes material dredged from Chesapeake Bay navigation channels to provide environmental benefits (wetland and upland remote island habitat), environmental education for the public, and enhancement of recreational activities, and is made possible by the exhaustive stakeholder outreach efforts of the USACE, Baltimore District and the Maryland Port Administration (MPA). These efforts are vested in a unique approach to partnering with stakeholders (citizens, NGOs, federal and state regulatory and resource management agencies, maritime and business interests, and local governments) that initiated and allows for continued Poplar Island Environmental Restoration Project success. The process relies on stakeholder-based committees to provide input regarding viable options for managing the material dredged from the Chesapeake Bay. Options explored by the committees are reviewed and ranked by a panel of scientific experts (the Bay Enhancement Working Group) with members from academia, federal and state regulatory and resource management agencies, citizens' groups, and other vested interest groups (i.e. watermen, etc.). Outreach begins at the project concept level. The Poplar Island Environmental Restoration Project is just beginning to provide its potential benefits to the environment and local communities, and continued partnering with stakeholders will be instrumental in the continued success of the Poplar Island Environmental Restoration Project and other dredged material related projects in the region.

Keywords: dredged material placement, sustainable development, outreach, local communities, education

INTRODUCTION

The Port of Baltimore is an economic engine for the state of Maryland, with approximately 128,000 jobs linked to the Port and the generation of $2.4 billion in personal wage and salary income, $1.9 billion in business revenues and $278 million in state, county, and municipal taxes (MPA 2005). Sustaining and expanding this Port related economy mandates safe passage for the ships that call on Baltimore.

The channels and anchorages in the Chesapeake Bay are essentially the "roadways" traveled by calling ships. Providing safe passage on these "roadways" requires the expansion and maintenance of the channels and anchorages through dredging. Maintenance of Baltimore Harbor's channel system requires dredging between from 5.0 to 6.0 million cubic yards (3.8 to 4.6 million cubic meters) of sediment each year. The average annual volume of dredged material for which the Port of Baltimore is responsible is 4.7 million cubic yards (3.6 million cubic meters) of which, 1.5 million cubic yards (1.1 million cubic meters) is from Baltimore Harbor and 3.2 million cubic yards (2.4 million cubic meters) is from Bay channels leading to Baltimore Harbor.

Meeting the placement needs of the Port of Baltimore in the Baltimore/Washington DC metropolitan area presents unique environmental, engineering, institutional, and social challenges. In particular, implementing new placement options as others are phased out of operation is a challenging task. The Port's past approach to developing placement options was to identify and evaluate a suite of options, select and design the option determined by the Port to be in the best interest of all stakeholders, and present it to the public as the next placement option. Two main factors have led to changes in the Port's option identification, selection, and implementation process: i) experience

[1] Deputy Director, Maryland Port Administration, Harbor Development, 2310 Broening Highway, Baltimore, MD 21224, Tel: (410) 631-1102, Fax: (410) 631-1057, fhamons@mdot.state.md.us

[2] Project Manager, Gahagan & Bryant Associates, Inc., 9008-O Yellow Brick Rd., Baltimore, MD 21237, Tel: (410) 682-5595, Fax: (410) 682-2175, dawilson@gba-inc.com

with the Hart-Miller Island Dredged Material Containment Facility and the public outcry and lawsuits the project generated and ii) the Dredged Material Management Act of 2001.

Since Hart-Miller Island, which became operational in 1984, the Port's approach to developing and implementing placement options has continued to evolve. The process's first evolutionary step was to include public review of the Port's option identification, selection, and implementation. The Poplar Island Environmental Restoration Project was the first major placement option to be developed and implemented under this more transparent process. The project's success returned to the Port some of the credibility lost during the implementation of Hart-Miller Island, and provided a successful example for the Port to follow.

The Poplar Island Environmental Restoration Project placed the Port's discussions with regulatory, environmental, business, and community representatives on a new basis. This new basis for discussion has helped the Port expand on its partnership and outreach approach, and in 2001, Maryland passed the Dredged Material Management Act. The Act triggered the process's next evolutionary step. The Act signaled the official start of the Port's Dredged Material Management Program (DMMP), and mandated that the Port develop a 20-year plan for handling dredged material.

Since its inception, the DMMP has been successfully utilizing stakeholder committees to participate in identification, selection, implementation, and operation of placement options in order to move towards implementation of a 20 year plan. This paper describes lessons learned during the Hart-Miller Island project; the Port's subsequent shift in approach; success of the new approach with the Poplar Island Environmental Restoration Project and its impact on Port's approach; Maryland's 2001 Dredged Material Management Act, the current DMMP and results being achieved; the Port's Masonville project; and conclusions drawn.

HART-MILLER ISLAND – LESSONS LEARNED

In 1969 the Maryland Department of General Services commissioned the Green-Trident Study to examine dredged material placement options. This study was commissioned in response to public opinion and a lawsuit filed opposing the Kent Island open water placement site run by the Bureau of Submerged Lands. Control of dredged material placement was handed over to the then Maryland Port Authority, now Maryland Port Administration (MPA). The Green-Trident study was completed in 1970, and recommended that MPA construct the Hart-Miller Island Dredged Material Containment Facility. Following completion of the regulatory process, the United States Army Corps of Engineers, Baltimore District issued a permit for construction of the Hart-Miller Island Dredged Material Containment Facility in 1975.

Public misconceptions regarding dredged material led to discontent from the communities in close proximity to the proposed site. Opposition to the project began to build in 1970, delaying issuance of the Corps 404 permit for 5 years. A lawsuit blocking the project was filed in 1976, following the issuance of that permit. The suit was resolved on December 23rd 1980, when the Supreme Court decided not to hear the case, and construction of the site began in September 1981. The site became operational, able to accept dredged material, in May 1984. The total time from state recommendation to site operation was 14 years, and a backlog of maintenance dredging had occurred during transition from the previously used Kent Island site to the Hart-Miller Island Containment Facility.

MPA's approach for implementing the Hart-Miller Island facility was to select and design the placement option without input from neighboring communities or local interest groups. The public was not involved until the permit process. And while Hart-Miller Island probably was the best option and may have been accepted by an educated public, it elicited harsh criticism when presented to the general public as the next placement option.

The Hart-Miller Island project not only took over 14 years from recommendation to operation and cost millions more in study, litigation and construction costs, but the MPA also lost some credibility with the public. This experience led to a shift in MPA's approach for selecting new dredged material placement options.

MPA'S SHIFT IN APPROACH

The MPA's past approach was to develop a suite of placement options best for the state of Maryland. Selected options would be presented to stakeholders after they were already past the study and preliminary design phases. In the case of Hart-Miller Island, stakeholders had a negative, fearful reaction towards the MPA's selected option.

Following Hart-Miller Island, the Port's approach changed. The focus was now on educating stakeholders as to the issues facing the Port in implementation of necessary, new placement options. This began immediately following the construction of Hart-Miller Island with the Port's Dredged Material Master Plan.

The Master Plan effort was a multidisciplinary, MPA-sponsored planning initiative that began in 1986, as a participatory process, to resolve long-term dredged material placement needs. The goal was to develop a comprehensive, consensus-based, long-term (20 year) plan for the management of dredged material. The initiative involved representatives from a range of State and Federal resource and regulatory agencies, local USACE Districts, county and local governments and public interest groups (see Table 1). During Phase I of the Master Plan, more than 475 sites for dredged material placement were identified and evaluated by the MPA. The MPA's identification and evaluation process was reviewed by the committees in Table 1. The MPA prepared a summary report entitled *Dredged Material Management Master Plan* (MPA 1989) that recommended various dredged material placement options.

Table 1. Participants in Master Plan Development.

Master Plan Regulatory Advisory Committee
• Maryland Department of the Environment
• Maryland Department of Natural Resources
• Chesapeake Bay Critical Areas Commission
• U.S. Environmental Protection Agency, Region III
• U.S. Army Corps of Engineers, Baltimore District
• U.S. Army Corps of Engineers, Philadelphia District
• U.S. Department of Commerce, National Marine Fisheries Service
• U.S. Department of the Interior, U.S. Fish and Wildlife Service
• Regional Planning Council

Master Plan Citizens Advisory Committee
• Chesapeake Bay Foundation
• Citizens Advisory Committee to the Chesapeake Bay Program
• Coastal Resources Advisory Committee
• Maryland Wetlands Committee
• State Water Quality Advisory Committee
• Maryland Chamber of Commerce
• Upper Chesapeake Watershed Association, Inc.
• Baltimore City, Mayor's Office
• Baltimore County Executive
• Anne Arundel County Executive
• Harford County Commissioners
• Board of Cecil County Commissioners
• Board of Kent County Commissioners
• Board of Queen Anne's County Commissioners
• Hart-Miller Island Citizen's Oversight Committee
• Private Sector Port Advisory Committee

The Master Plan effort provided stakeholders a chance to review and comment on the Port's identification and selection process. This transparency was a big step forward in the MPA's approach. However, stakeholders did not have a direct role in the identification or final selection of placement options.

This transparency and the inclusion of all willing stakeholders in the review process resulted in increased stakeholder involvement and MPA's regaining a measure of credibility with Port stakeholders. The Poplar Island Environmental Restoration Project, which is a product of the Port's placement option selection process, was, and is a large factor in increasing public awareness of dredged material management issues and options.

POPLAR ISLAND ENVIRONMENTAL RESTORATION PROJECT

Through the selection process reviewed by Port stakeholders, the Maryland Port Administration and the United States Army Corps of Engineers, Baltimore District, the restoration of 1,100 acres of remote island upland and wetland habitat at Poplar Island was identified as the preferred dredged material placement option in 1996. Since the beginning of operations in 2001, the project has been meeting the dredging needs of the Port in a way that is beneficial to local communities and stakeholders.

In particular, the project will provide, in evolving stages:

- 550 acres of wetland habitat;
- 550 acres of upland habitat;
- Educational and recreational opportunities for the public;
    - Educational tours of Poplar are conducted by the Port (177 tours in 2006);
- Rock reefs and dike armor as excellent fishing grounds;
- Well-paying local jobs;
- Annual placement capacity ranging from 2.0-3.2 mcy;
- Approximately 42 mcy of placement capacity for the Port; and
- Site life of approximately 15 years.

Public interest in the Poplar Island project has been much greater than expected. The site has approximately 50 acres of functioning wetlands to date, with the majority of the island still currently a construction site. This has not impeded public interest, and to accommodate tour requests, the MPA purchased a tour bus and currently staffs a tour guide.

The tours allow the public to see how the Port's project is progressing while simultaneously providing environmental benefits. The vast majority of the citizens who visit the site leave informed on the use of dredged material as a natural resource and willing to support similar Port initiatives. The project is proving that an informed public is more inclined to provide support for beneficial projects than an uninformed public.

The successful implementation of the Poplar Island project, as it was developed through the Port's more transparent approach, set the stage for the Dredged Material Management Act of 2001 and Maryland's DMMP.

MARYLAND'S DREDGED MATERIAL MANAGEMENT PROGRAM (DMMP)

Since the beginning of the 1989 Master Plan, the Port has relied on stakeholder committees to review the Port's process for option identification, development, and selection. Since the passage of the Dredged Material Management Act of 2001, stakeholders have been included as participants in the identification, selection and development of potential options.

The Act mandated that the state develop and continually update a twenty-year plan for managing material dredged from the channels, berths and anchorages servicing the Port of Baltimore. In compliance with the mandate, MPA developed the DMMP, with the Executive Committee[3] responsible for reviewing and recommending placement options to the Governor.

[3] Executive Committee was established by the 2001 Dredged Material Management Act. The other committees were established by the MPA to provide recommendations to the Executive Committee.

Placement options reviewed by the Executive Committee are first developed as concepts, technically evaluated and recommended by stakeholder committees to the Management Committee for further study and design. The Management Committee evaluates these recommendations, prioritizes and then makes programmatic recommendations to the Executive Committee. These stakeholder committees are the backbone of the DMMP program and include: the Citizens' Advisory Committee, the Bay Enhancement Working Group (the DMMP's "technical committee"), the Innovative Reuse Committee, the Hart-Miller Island Citizens' Oversight Committee, the Cox Creek Oversight Committee and the Harbor Team. Figure 1 shows the hierarchy of the DMMP.

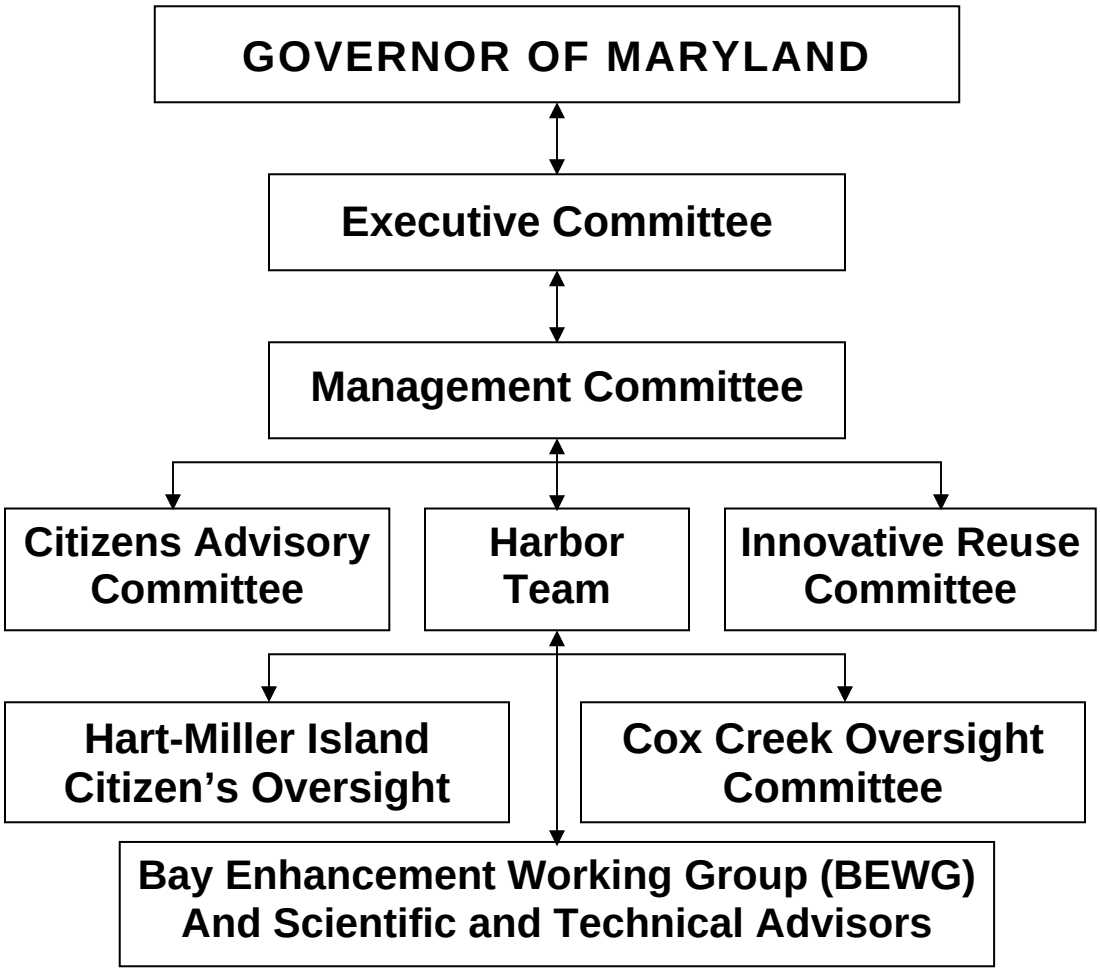

Figure 1. DMMP structure.

It is important to note that lines of communication between the committees are open and that the hierarchy does not prevent any of the stakeholders from communicating directly with any of the other committees. This free flow of information began with the Harbor Team, which was created in 2003. The Harbor Team was given the option of reporting directly to the Executive Committee.

DMMP committee members represent an impressive cross-section of Port stakeholders, and participation from all stakeholders is vigorously encouraged and even solicited. The committee members and participants represent citizens, NGOs, federal and state regulatory and resource management agencies, maritime and business interests, and local governments. Table 2 presents a list of participants in the eight DMMP Committees.

The state's process does not require it to accept committee recommendations, but the focus and intent of the process is to develop options that are mutually supported by the majority, if not all of the stakeholders. It is not likely that any option will go forward without that majority support.

Table 2. DMMP committee participants and members.

- Aberdeen Proving Grounds
- Alliance for the Chesapeake Bay
- Anne Arundel County Government
- Anne Arundel County Land Use and Environmental Office
- Association of Maryland Pilots
- Baltimore City Government
- Baltimore County Government
- Baltimore County Department of Environmental Protection & Resource Management
- Baltimore County Watermen's Association
- Baltimore Development Company
- Baltimore Gas & Electric Company
- Baltimore Harbor Watershed Association
- Brooklyn and Curtis Bay Coalition
- Cecil County Commissioners
- Cecil County Land Trust
- Cecil County Representative
- Chesapeake Bay Foundation
- Chesapeake Bay Yacht Club Association
- Citizens' Advisory Committee
- Coastal Conservation Association
- Congressional Liason
- Consulting Engineer
- Cox Creek Citizens Oversight Committee
- CSX Transportation
- DMMP Citizens Committee Facilitator
- Den-El Trucking
- Department of Business and Economic Development
- District Commander U.S. Army Corps of Engineers, Philadelphia District
- District Commander U.S. Army Corps of Engineers, Baltimore District
- Domino, The American Sugar Refining Company
- Dorchester County Public Works
- Dorchester County Representative
- Dorchester Shore Erosion Group
- Dundalk Area Citizen
- Dundalk Renaissance Corporation
- Essex/Middle River Civic Council
- Greater Dundalk Alliance
- Greater Dundalk Community Council
- Greater Pasadena Council
- Harford County Government
- Hart-Miller Island Citizens Oversight Committee
- Intralyx, Inc.
- John S. Connor, Inc.
- Kent Conservation, Inc.
- Kent County Commissioners
- Liason for the Management Committee (University of Maryland Center for Environmental Science)
- Living Classrooms Foundation
- Magothy River Association
- Marley Neck Citizen
- Maryland Aggregates Association
- Maryland Chamber of Commerce
- Maryland Charter Boat Association
- Maryland Conservation Council
- Maryland Delegate Jennings
- Maryland Delegate Montgomery
- Maryland Delegate Walkup
- Maryland Department of Agriculture
- Maryland Department of the Environment
- Maryland Department of Natural Resources
- Maryland Environmental Service
- Maryland Geological Survey
- Maryland Pilots Association
- Maryland Port Administration
- Maryland Saltwater Sport Fishermen's Association
- Maryland Watermen's Association
- Moran Towing
- National Aquarium in Baltimore
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration Chesapeake Bay Office
- North County Land Trust Cox Creek Citizens Committee
- North Point Community Coordination Council
- North Point Peninsula Committee Council
- Northwest Maryland Waste Disposal
- Patapsco Back Rivers Tributary Team
- Private Sector Port Coalition
- Rukert Terminals
- Secretary Maryland Department of the Environment
- Secretary Maryland Department of Natural Resources
- Secretary Maryland Department of Transportation
- Severn River Association
- Sierra Club
- T. Parker Host of Maryland
- Talbot County Council
- Terminal Shipping Company
- Turner Station Heritage Foundation
- University of Maryland Center for Environmental Service
- Upper Bay Charter Boat Captains
- Upper Chesapeake Watershed Association
- U.S. Army Corps of Engineers, Baltimore District
- U.S. Army Corps of Engineers, Philadelphia District
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- W.R. Grace & Co.
- Watermen

Program Success

The MPA's approach and the DMMP have successfully been providing placement capacity in a way that is beneficial to Port stakeholders. The following is a list of benefits the Port has and/or is providing to stakeholders.

- Oyster Restoration Program
  - Maryland Department of Natural Resources has stated that the oysters grown through this program each year equals the annual oyster harvest.
- Hart-Miller Island State Park
  - Thousands of boaters anchor off this park and use its facilities to relax and recreate.
- Hart-Miller Island South Cell Environmental Restoration
  - Educational tours.
  - Migratory waterfowl utilize this area each year.
- Poplar Island Environmental Restoration Project
  - Educational tours (177 in 2006).
  - Remote island upland and wetland habitat.

Maryland is following DMMP committee recommendations and moving towards its goal of implementing options capable of providing 20 years of placement capacity. The following list presents two of the proposed placement options and their accompanying stakeholder benefits. The placement options and associated benefits were identified and are being developed by the DMMP committees (most prominently the Harbor Team), and are excellent examples of DMMP projects.

Masonville DMCF (permit applied for)

Benefits ($20 Million package included as part of project to be permitted)

- Masonville Cove Nature Center Environmental Restoration:
  - Education center;
  - Land and water cleanup/restoration;
  - Wetland creation, restoration, and enhancement;
  - Hike/bike trails;
  - Bird sanctuary;
  - Canoe/kayak launch;
  - Environmental easement;
  - Maintenance of mitigation projects in perpetuity;
  - Limited public access; and
  - Community stewardship.
- Stream restoration projects and Harbor trash interceptors; and
- Fish stocking and eel passage installation.

Sparrows Point DMCF (in feasibility phase)

Benefits (under consideration by DMMP committees)

- Contaminated sediment remediation;
- Wetland creation, restoration, and enhancement;
- Invasive species removal;
- North Point State Park shoreline access;
- Shoreline enhancement;
- Hike/bike trails;
- Traffic improvements;
- Fishing piers and boat ramps; and
- Ball fields.

Placement capacity (16 million cubic yards or 12.2 million cubic meters) to be provided by the Masonville DMCF is critical to meeting Maryland's dredging needs. This project has expanded upon the process which led to the success and popularity of the Poplar Island Environmental Restoration Project. The next section provides an overview of the Maryland DMMP's success on the Masonville project, and Poplar Island's role.

PROGRAM SUCCESS - MASONVILLE DREDGED MATERIAL CONTAINMENT FACILITY

The Dredged Material Management Act of 2001 mandated the closure of the Hart-Miller Island DMCF at the end of 2009. With the closure of Hart-Miller Island, the Port will require new placement capacity. The Harbor Team is a DMMP committee that was formed in March 2003 to develop a plan for meeting the Port's Harbor dredging needs. In an October 2003 report, the Harbor Team recommended study of DMCFs and associated community enhancements at three locations (Sparrows Point, Masonville, and BP Fairfield) within the Harbor. The Executive Committee concurred, and the MPA has completed the necessary studies for Masonville and is working on completing studies for the other options. In January 2005, the MPA presented the interim results of the study to the Harbor Team. In the spring of 2005, the Executive Committee, with the concurrence of the Harbor Team and other stakeholder committees, instructed the MPA to pursue implementation of a DMCF at Masonville and the enhancement of Masonville Cove as the first option.

Working with the local communities and the regulatory and resource agencies on the DMMP committees, the MPA moved forward with the project. MPA anticipates that the project, which includes the enhancement of Masonville Cove, will receive a favorable permit decision in the spring of 2007. Further, the MPA anticipates that the Masonville DMCF will be operational during the 2008-2009 dredging season and that much of the enhancement of the Masonville Cove will also be complete at that time.

Should the MPA meet the projected schedule, the Masonville project will have gone from recommendation for study to operations in approximately 5 years. Additionally, communities will have access to a nature center for education and recreation. This project exemplifies the partnership and outreach approach developed by the MPA since the Hart-Miller Island project, which spanned 14 years from recommendation to operation.

Poplar Island's Role In Masonville Implementation

Much of this anticipated success at Masonville is attributable to a shift in public opinion/perception due to the success at Poplar Island. When the MPA approached the Brooklyn/Curtis Bay community on potential enhancements, they asked for wetlands, community access to wetlands, and facilities for environmental education. The community was aware of Poplar Island, some residents having visited the project. By delivering exactly what was promised with Poplar Island, the Port established credibility with the Brooklyn/Curtis Bay community, and this placed discussion of the DMCF on favorable terms.

CONCLUSIONS

Difficulty with the implementation of the Hart-Miller Island DMCF led to a change in MPA's approach to implementing dredged material placement options. The approach went from selecting a placement option and presenting it to the public, to providing the public a chance to review the MPA option identification and selection process. The Poplar Island Environmental Restoration Project was the first major new option implemented using this approach and continues to play a large role in the Port's DMMP. The Poplar Island Environmental Restoration Project is considered a success by virtually all Port stakeholders and is just beginning to provide its potential benefits, while providing placement capacity for the Port.

Success in implementing the Poplar Island Environmental Restoration Project proved the legitimacy of stakeholder involvement. Maryland's Dredged Material Management Act of 2001 then set the groundwork for Maryland's current DMMP process. The Act led to Maryland's DMMP and evolution of the process to include all Port stakeholders in initial conceptual option development, implementation, and finally operation.

The Port is absolutely certain that the Masonville project and the DMMP would not be as successful as they currently are without the strong support of the Harbor Team and local communities.

The success of the Poplar Island Environmental Restoration and the Masonville projects is providing placement capacity for Port dredging needs while benefiting the environment and local communities. These projects are showing that educating stakeholders as to the challenges faced by the Port and partnering with them to develop solutions to these challenges results in implementable and beneficial projects.

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NOMENCLATURE

DMMP – Dredged Material Management Program

MPA – Maryland Port Administration

NGO – Non-Governmental Organization

USACE – United States Army Corps of Engineers