



2015

Annual Report to the Dredged Material Management Program (DMMP) Executive Committee

Implementation of the Dredged Material Management Act of 2001

Activities and Recommendations

PREPARED BY THE DMMP MANAGEMENT COMMITTEE

Approved by the Management Committee October 30, 2015

Executive Summary

This Annual Report presents an overview of the accomplishments of Maryland's Dredged Material Management Program (DMMP) during 2015 and provides recommendations for 2016.

Capacity, Authority, and Funding: To adequately maintain the Port of Baltimore's marine highway/navigation channels, timely development of additional dredged material management options continues to be crucial. The Maryland Port Administration (MPA) has a 20-year plan for dredged material management, but some projects face property acquisition, funding, permitting, or other risks to implementation. Innovative reuse has not developed to the point of providing the desired one-third of annual Harbor dredged material management capacity.

Poplar Island and its Expansion as well as construction of the Mid-Chesapeake Bay Island project face stiff competition for federal funding in the face of many new project authorizations that were included in the federal Water Resources Reform and Development Act (WRRDA) 2014, federal budget reductions, and changing federal budget priorities.

MPA continues to reach out directly to key leadership at the U.S. Army Corps of Engineers (Corps) and the federal Office of Management and Budget (OMB), and is working diligently through the American Association of Port Authorities (AAPA) as the Corps transforms its budget strategy for prioritizing federal investments in new navigation infrastructure, revises existing or develops new performance measures to prioritize funding for maintenance dredging, and develops new WRRDA 2014 implementation guidance.

Program Management: MPA is working closely with the Corps' Baltimore District office as that District updates its twenty year Dredged Material Management Plan. This plan will act as a roadmap for timely and quality project delivery for the Port of Baltimore for the next 20 years. The final report is due by February 2016.

In 2015, MPA continued to investigate nutrient reduction concepts to achieve the nutrient reductions that will be required by discharge permits for its placement sites in order to meet the nutrient Total Maximum Daily Load (TMDL) for the Chesapeake Bay and its tributaries.

Innovative and Beneficial Use: The strategy revised and updated in 2014 maintains the long term goal of recycling at least 500,000 cubic yards (cy) annually. Short term goals are identified to implement projects using small to medium quantities of dredged material and to examine regulatory requirements to streamline regulatory processes. As part of the implementation of the revised strategy, the Executive Committee approved a regulatory action plan to address any recommended policy revisions to enhance the ability to use dredged material. An inter-agency workgroup was formed to submit recommendations to the Executive Committee in 2016.

Stakeholder Engagement: Public outreach continues to be a critical component of the overall DMMP success story. Efforts in 2015 focused on expansion of the Cox Creek Dredged Material Containment Facility (DMCF) and reopening of the Pearce Creek DMCF. MPA has continued to strengthen the overall outreach program to provide the public with a deeper understanding of the issues and encourage contributions of new ideas. At the November 2014 DMMP Annual

Meeting, stakeholders provided valuable feedback. During 2015, MPA engaged directly with various DMMP stakeholder committees to delve further into the issues raised in the 2014 Annual Meeting to gain a better awareness of stakeholders' views and opinions.

Baltimore Harbor Projects: MPA worked with the Department of Natural Resources (DNR) and the HMI Citizen's Oversight Committee to develop the HMI long term management plan. The Cox Creek and Masonville DMCFs remain the only options currently available for placement of Harbor dredged material. MPA received the Maryland Department of the Environment (MDE) overlay discharge permit for the Cox Creek and Masonville DMCFs. MPA continued remediation and habitat restoration in Masonville Cove. MPA and Baltimore City are collaborating on the design of five trash interceptor mitigation projects. MPA remains interested in Coke Point as a potential location for a DMCF. MPA has commenced work on expanding the Cox Creek DMCF on MPA-owned uplands adjacent to the existing DMCF and is also exploring acquisition of the adjacent Cristal USA site. MPA has received the permits to implement a proposed pilot test of Confined Aquatic Disposal (CAD) adjacent to the Masonville DMCF. MPA expects to begin implementation of the pilot project in 2016.

Chesapeake Bay Channels and Placement Sites: Significantly increased federal funding in federal fiscal years 2017 and 2018 will be required for the Poplar Island Expansion project. Placement needs beyond those met by Poplar Island Expansion would be addressed by longer-range plans for the Mid-Chesapeake Bay Islands project. MPA and the Corps are developing plans for design and construction of this project.

Upland Sites - Chesapeake and Delaware (C&D) Canal: MPA and the Corps' Philadelphia District agree that reopening the Pearce Creek DMCF is the most viable option for placement of material dredged from the approach channels to the C&D Canal. The District has received a Water Quality Certificate (WQC) and approval of its plans for a liner from MDE. The District is proceeding with the installation of the liner with the goal of having the DMCF ready to accept dredged material during the 2017 dredging cycle. MPA is funding a new water supply system to properties near the DMCF. This system is scheduled to be operational by the 2017 dredging season. The Pearce Creek Implementation Committee was formed in 2015 with representation from citizens and government agencies to share information and receive feedback on the progress of the project, and is meeting every two months in Cecilton. A project website has also been created.

Contingency Plan – Ocean Placement: Ocean placement of Bay sediments in an existing site is an alternative that is included in the Maryland DMMP as a contingency option if other placement options are not available. The U.S. Environmental Protection Agency (EPA) concurred with the ocean placement option for each of the Upper Bay Channels for the period 2014 to 2017. This concurrence will expire on October 2, 2017. Prior to any use of this option, public coordination would be required.

Projected New Work Dredging: Several significant projects will require new work (i.e., not maintenance) dredging in the future. These include completion of the 50-foot channel to its Congressionally authorized widths as well as dredging for expansion of existing private terminals and potential future public and private marine terminals. To improve access to the

Seagirt Marine Terminal, approximately 952,000 cy of dredged material from new work dredging was placed in the Masonville DMCF in 2015.

Recommendations for 2016

- Open HMI South Cell for public access and begin implementation of the North Cell habitat management plan.
- Work with the federal government to support sufficient funding and beneficial policies for the Corps' dredging program serving the Port of Baltimore, emphasizing the necessary funding increase needed for the Poplar Island Expansion and Mid-Bay site design. Engage in continued coordination efforts with the Corps at the District, Region, and Headquarters levels, the Assistant Secretary of the Army for Civil Works, and the OMB on dredging and dredged material management funding requirements and planning to meet the current and future needs of the Port of Baltimore.
- Work with the Corps, directly and through AAPA, to ensure that Corps' implementation guidance for WRRDA 2014 is in line with Maryland's understanding of the intent of the law.
- Work closely with the Corps' Baltimore and Philadelphia Districts in updating their Dredged Material Management Plan to ensure their complete understanding of the Port of Baltimore's expected business growth and development and DMMP plans, so that the plans and schedules are fully coordinated.
- As MPA continues to develop its Dredged Material Management Program, focus on planning beyond the 20 year time frame, including identification of data and information needed to support long term sustainable dredged material management options.
- Continue to review and evaluate the 2011 Harbor Team recommendations (See Appendix 5) and implement where feasible. Based on additional studies and more recent stakeholder feedback, the recommendations to be pursued in 2016 include continued:
 - Implementation of the Cox Creek Expanded (CCE) Project on MPA owned property (Stage 1 Expansion).
 - Implementation of the Confined Aquatic Disposal (CAD) Pilot Project.
 - Pursuit of acquisition of the Cristal USA property for CCE Stage 2.
 - Review of the potential to establish a DMCF at Coke Point.
 - Implementation of the revised Innovative and Beneficial Use Strategy.
- Implement a new direction for innovative and beneficial use by completing the economic analysis, completing the work of the Regulatory Action Work Group, and identifying small scale projects for implementation.
- Support the Corps' Philadelphia District as it works with stakeholders and MDE to pursue dredged material placement capacity at previously used C&D Canal upland sites

for placement of material dredged from the C&D Canal approach channels. Maintain the schedule for the re-opening of the Pearce Creek DMCF and installation of a new water supply system for citizens.

- Sustain the public's engagement, understanding, and support of the Maryland's DMMP through strategic outreach to the communities, government agencies, non-government organizations, businesses, and schools in the vicinity of project sites. Incorporate stakeholder feedback and input in the DMMP planning process. Continue to build upon existing partnerships, and develop new partnerships, with DMMP stakeholders.
- Complete a comprehensive water quality management strategy for all DMCFs that will focus on compliance obligations, TMDL implementation and maximizing dredged material placement capacity.

2015 Annual Report Narrative

Approximately 4.34 million cubic yards (mcy) of sediment must be dredged annually to maintain federal channels and anchorages at their authorized depths and widths to ensure reliable navigational channels for vessels transiting the Port of Baltimore. MPA and private sector partners dredge another 0.8 mcy annually for maintenance, new work, and expansion projects, and federal new work projects are estimated at 0.1 mcy of material per year. Altogether, MPA, private sector, and federal maintenance dredging, new work dredging, and expansion dredging needs are estimated at 5.24 mcy per year, a total of about 105 mcy over a 20-year planning period. All dredged material must be placed in approved placement sites or beneficially used.

Larger vessels are entering the Port of Baltimore from international destinations via the Suez Canal, and it is expected that an increased number of larger ships will call following the anticipated completion of the Panama Canal expansion in 2016. The achievement of the 50-foot deep berth and installation of the next generation of cranes at Seagirt Marine Terminal by MPA's P3 partner, Ports America Chesapeake, positions the Port of Baltimore to attract the potential cargo growth associated with the Panama Canal expansion. As one of only four U.S. East Coast ports that currently has a 50-foot deep navigation channel, it is critical that the Port have sufficient dredged material placement capacity to support maintenance of its 50-foot channel in terms of both depth and width in order to capitalize on that anticipated growth.

Maintaining the shipping channels is critical to the continued success of the Port of Baltimore. MPA is fortunate to have an active, engaged constituency of DMMP stakeholders that are integral to the State's DMMP. These include private sector businesses, citizens, academia, government agencies, elected officials, and non-government organizations. The Port of Baltimore generates about 13,650 direct jobs and while about 127,600 jobs are linked to Port activities. This represents \$2.9 billion in salaries and \$2.2 billion in business revenues. Among U.S. Ports, Baltimore ranks 9th for the total value of foreign cargo and 13th for foreign cargo tonnage.

The State of Maryland's Dredged Material Management Program is a rolling twenty-year plan to address the State's needs to dredge channels for vessels transiting the Port of Baltimore and find appropriate locations to place the material dredged from the channels. Because of the duration of the DMMP, the complexity of the program, and need for coordination, changes generally occur incrementally and the program is adjusted as necessary. This report is provided annually by the Management Committee to inform the Executive Committee of the year's accomplishments as well as to highlight future challenges for the DMMP and recommendations for the coming year. Memberships of the Management Committee and the Executive Committee are shown in Appendices 2 and 3, respectively.

I. KEY ISSUES

This report of the Management Committee provides updated information on all activities for the 2015 DMMP. In reviewing the year's work, it is clear that certain major issues are critical to the success of the DMMP and should be brought to the attention of the Executive Committee for the purpose of planning the year ahead. This section highlights these significant issues.

A. Capacity

Maritime dredging is driven by the needs and schedules of the Port's public and private sectors and local governments throughout the entire Harbor and Bay channel system. Maintaining capacity for placement of dredged material from both Harbor and Chesapeake Bay channels continues to be a major challenge to the Maryland DMMP. Harbor material that was previously placed in the 1,000 acre Hart Miller Island (HMI) DMCF is now placed in two DMCFs that are each about 100 acres in size. The small sizes mean that both sites have limitations on annual placement capacities that MPA has not experienced in the past. Additionally, both Harbor sites have nutrient discharge limits that HMI did not have; these limits generally require holding water in the DMCFs for relatively long periods of time. The issuance of an overlay discharge permit for these sites provides some relief in managing water, and thus capacity in these DMCFs, but the decreased availability for dredged material placement remains a significant problem for the DMMP.

Due to the smaller surface areas and the new discharge limits, the Harbor sites do not allow for dewatering and consolidation in the same way that HMI did. As these sites begin to fill it is anticipated there will be years when no material can be placed in them in order to allow for dewatering and consolidation rest periods. Getting the last portions of capacity from these sites will be spread out over longer periods of time than was the case at HMI, making the final placement dates difficult to predict. This highlights the need for more capacity so that adequate dredged material placement capacity is available during the rest periods.

In addition to the annual maintenance dredging needs, new work dredging projects are expected in the foreseeable future. These projects will stretch the limits of the small Harbor sites even more than routine maintenance projects. For example, in response to MPA interest, the Corps' Baltimore District has initiated a study to widen the 50-foot channels to currently authorized widths. This study is expected to be completed by August 2017. Generally, in the lower Bay, channel widths would increase from 800 feet to 1,000 feet, and in the upper Bay and Harbor

main channel widths would increase from 700 feet to 800 feet. Projects such as this will accelerate the need for additional placement capacity in both the Bay and the Harbor.

Innovative reuse options are still in the planning stage, and, if feasible, will likely be developed incrementally over time to achieve the goal of providing one third of the annual capacity needed for Harbor material.

The overall strategy to accommodate the maintenance and new work dredging for the next 20 years is charted in Appendix 4 for annual approval by the Executive Committee so that options can be developed and made operational as needed.

***Challenge:** Although the DMMP identifies projects with capacity for 20 years out, property acquisition, construction funding, and permitting pose significant challenges to implementation of those projects.*

B. Budget Priorities and Funding

Budget cuts, federal law, and policy issues continue to affect the availability of State and federal funds for maintenance and new work dredging and for existing and future placement capacity. One or more of these issues affects every activity of the DMMP.

Constrained federal budgets are resulting in fewer funds for important dredging projects, studies, construction of environmental improvements, and containment projects across the nation. While WRRDA 2014 includes many beneficial provisions, the additional project authorizations in the law have significantly increased the demands on the Corps' construction budget. Due to the limited availability of federal funds, some ports are using state funds for projects that would otherwise be federally funded. The Port of Miami is currently using state funds for planning studies and the Port of Jacksonville is using state funds for construction projects. The Corps began addressing these constrained budgets through several initiatives including a new "top-down" approach to budgeting that would require the demonstration of performance measures in order for projects to receive funding, including Operations and Maintenance funding for dredging, as a means of accomplishing the national priorities, goals, and objectives. The Corps is implementing a strategy for Civil Works Planning programs that includes directives to focus funding on high priority activities.

MPA has expressed concerns to the Corps about some of the methods that may be employed in the Corps' proposals for performance based decision making for funding of dredging projects. The Port of Baltimore and its partners are committed to working cooperatively with the Corps on all policies and procedures to insure the continued availability of safe and reliable navigation channels.

***Challenge:** MPA will need to continue to monitor the Corps of Engineers' budget very closely to identify any problem areas that could adversely affect vital maintenance and new work projects for the Port's navigation infrastructure. The Port of Baltimore must continue its enhanced advocacy for reasonable and fair consideration in the application of federal budgeting strategies.*

II. PROGRAM MANAGEMENT

The State of Maryland DMMP was created in recognition of the importance of the long range planning and collaboration necessary to keep the dredging program on course. A committee hierarchy (see Appendix 1) was developed to ensure the success of this complex process. Committee members represent various federal and State agencies, port-related businesses, academia, and environmental and citizen groups. The broad based committee structure works cooperatively to study, evaluate, and proactively plan to ensure that dredging needs and dredged material management options for today and the future will be met.

A. The Corps' Dredged Material Management Plan

Maryland's DMMP and the Corps' Dredged Material Management Plan co-exist and are mutually supportive. Collaborative efforts have greatly helped in the development and implementation of both plans. During 2015, the Corps continued updating its Dredged Material Management Plan. The Corps is scheduled to publish its final updated Dredged Material Management Plan by February 2016. It will be essential to maintain strong links for communication and information sharing between the State and the Corps as well as with DMMP stakeholders throughout the federal revision and updating process so that projections for dredging needs and dredged material placement capacity can be accurately tied to forecasted Maryland business growth and customer needs. Such cooperation can result in mutual efficiencies and success.

The Management Committee believes that the structure and operation of the State's DMMP as a collaborative and transparent process with the Port's stakeholders has been successful and should be maintained and enhanced as necessary in 2016 and beyond.

***Challenge:** The State and the Corps must continue to work cooperatively in their DMMP activities as well as in the development of the Corps' updated Dredged Material Management Plan to assure timely information sharing, resolution of issues, development of innovative ideas and approaches, and identification of mutually beneficial outcomes.*

B. Achieving New Bay Restoration Goals

The development of total maximum daily load (TMDL) requirements for the Bay and its tributaries by the EPA will increase the operational and budgetary needs of MPA and Corps facilities in 2016 and beyond. In 2011, Bay watershed states and the Environmental Protection Agency (EPA) began the process of establishing Watershed Implementation Plans (WIPs) to achieve the target levels for nutrient (nitrogen and phosphorus) and sediment contaminants documented in the recently completed Chesapeake Bay TMDL. Port and dredging facilities have been assigned target load reductions through WIPs that were finalized in early 2012. All pollutant sources are being considered in the WIPs, so in addition to the direct discharges from the placement facilities, storm water loadings from existing marine terminals will have to be reduced or have their loads offset. Additional TMDLs for polychlorinated biphenyls (PCBs), metals, and trash are in development. In 2014, MPA's TMDL Study Group finalized a report

detailing concepts to achieve the coming reductions that will be required by discharge permits and the need for additional data collection. In 2015, MPA followed up on the nutrient reduction concepts identified in the 2014 report, and is conducting re-circulation and mass balance studies and a pilot test of an algal turf scrubber system at the Cox Creek DMCF.

Challenge: Current and future TMDLs have the potential for requiring additional monitoring, treatment, and/or offset purchases and will need to be considered in setting budgets into the future.

III. INNOVATIVE AND BENEFICIAL USE

The DMMP Executive Committee approved the revised innovative reuse (IR) strategy at its June 4, 2014 meeting. Major features of the revised strategy include:

Consider innovative reuse and beneficial use together, even though Maryland law defines them separately. The reason for this new approach is that anything that diverts material from a DMCF or recovers placement site capacity in a DMCF while meeting environmental, regulatory and navigation requirements and considering realistic costs and benefits is viewed as in the best interest of the State of Maryland.

Establish the following short-term and long-term and goals:

Short Term Goal: Within the next two to five years, implement several strategically selected, small to medium quantity innovative and beneficial use projects with Harbor material to test and ameliorate regulatory, financial, and public acceptance limitations that currently exist.

Long Term Goal: Make innovative and beneficial use of dredged material to recover or save capacity in DMCFs an implemented component of the Dredged Material Management Program in Maryland, in order to promote the long-term viability of the Port of Baltimore. The long term goal is to recycle at least 500,000 cubic yards annually.

A key action item in the updated strategy is a comprehensive review of current regulatory policies in Maryland to determine whether opportunities exist to better facilitate innovative and beneficial uses of dredged material. Based on the feedback from DMMP stakeholders, a more predictable regulatory environment is needed. At its August 20, 2015 meeting the DMMP Executive Committee approved the formation of an Inter-agency Regulatory Workgroup, whose goals are to identify opportunities for revising existing policies and/or developing new policies (whether through guidelines, Code of Maryland Regulations, or legislation) and to consider new regulatory approaches for managing dredged material. Members of the interagency workgroup include representatives from the Corps, Baltimore District, EPA, MDE, DNR, the Maryland State Highway Administration (SHA), and MPA.

As a way to outline and frame the various tasks presented to the Inter-agency Regulatory Workgroup, the MPA developed a detailed Regulatory Action Plan, which was approved by both the Management and Executive Committees. Included in the Action Plan are the following items:

- Review policies in Massachusetts, Pennsylvania, and New Jersey to assess how they might apply in Maryland;
- Review the recent MDE/industry process for development of streamlined regulations for composting facilities as a potential process model for developing a regulatory framework for dredged material; and
- Based on this review consider drafting new statewide policy, regulations, or legislation as appropriate for the innovative and beneficial reuse of dredged material from Baltimore Harbor.

The Workgroup will issue final recommendations to the DMMP Executive Committee in 2016 with the following specific milestones:

- Draft Report to the DMMP Management Committee – February 2016
- Final Report with Recommendations to DMMP Executive Committee – Spring 2016

An economic valuation analysis will be completed in 2016 to assess the economic value of regained placement capacity as well as the value of the environmental benefits of innovatively or beneficially using dredged material in order to create more realistic cost/benefit analyses.

As outlined in the revised IR Strategy, under Action Item #4, the MPA is also exploring the possibility of implementing on a demonstration basis as many short term projects as possible. To that end, staff is currently researching the potential use of Maryland mines and quarries as alternatives to DMCFs and locating potential landfills and brownfields where processed dredged material could be used for reclamation, capping or daily cover. Recommendations on the viability of these various demonstration projects will be completed in 2016.

***Challenge:** Implement the revised innovative and beneficial use strategy.*

IV. STAKEHOLDER ENGAGEMENT

A. Community Outreach

The MPA continues to increase its visibility and the public's knowledge of the Port of Baltimore, its operations and projects, and their importance to the State of Maryland. MPA works continuously to improve collaboration, inclusiveness, and transparency with its partners, as well as to increase outreach, Port education, communications, and visibility of Port programs. Through the DMMP, in 2015 more than 16,000 people had the opportunity to learn about the Port of Baltimore by visiting DMCFs and participating in off-site events, such as community events, meetings, conferences, and educational programs. This included many new stakeholders participating in tours of DMCFs. The Greenport newsletter has continued to be a valuable tool to inform stakeholders of DMMP activities.

The MPA continued its relationship building effort with Northern Anne Arundel County community organizations in the vicinity of the Cox Creek DMCF to expand awareness about Port activities and developing closer ties with community leaders in that area. On March 10, 2015, MPA hosted a public information meeting to present the status of the Cox Creek Expanded Project to address any questions and concerns. Approximately 35 citizens and other interested parties attended the event. The Cox Creek Citizens Oversight Committee members continue to learn about the Port of Baltimore, the dredging program, and expansion plans at Cox Creek, and provide valuable feedback on the project. Legislatively, the group was expanded to include two additional organizations; Restore Rock Creek and the South Baltimore Business Alliance. These groups will officially join the committee in 2016.

Outreach on the Pearce Creek project was enhanced by the creation of the Pearce Creek Implementation Committee which brings together MPA, the Corps, Cecil County, Cecilton and the leadership of the communities surrounding the Pearce Creek site for bi-monthly updates and conversation about project progress. During 2015 a Pearce Creek project website was created and has been enthusiastically received by community members.

MPA's commitment to community, education, and the environment is continually demonstrated at the Masonville site where community members can visit the Masonville Cove campus and participate in programs hosted by the Living Classroom Foundation and the National Aquarium that focus on Masonville Cove restoration, the Bay Watershed, and the Port of Baltimore. The Masonville Cove Small Watershed Action Plan, created by the National Aquarium and a steering committee of local community and environmental leaders, is providing an opportunity for the community to take part in the planning of environmental projects. Funds have now been acquired to begin implementing partnership projects highlighted in the plan. The Urban Wildlife Refuge Partnership, with assistance from the U.S. Fish and Wildlife Service, has provided expanded opportunities for environmental stewardship through internships, wildlife management, and funding. With funding awarded this summer from the National Fish and Wildlife Foundation, Living Classrooms will work in partnership with the Hispanic Access Foundation and other partners at Masonville Cove to connect with Baltimore City church leaders and engage the local Hispanic church congregations in education and conservation activities centered on urban watershed issues and the monarch butterfly and its habitat.

MPA is actively supporting the Masonville Cove stakeholders as they explore partnership opportunities with other State and federal agencies that can help support the Masonville Environmental Education Center campus and programs. The stakeholders at Masonville Cove presented a comprehensive business plan with a diverse funding portfolio that includes the pursuit of funding opportunities from government, foundations, and corporate partners.

Tours at Maryland's dredged material placement sites have proven to be excellent teaching tools for both school students and adults. Meaningful field experiences at Hart Miller Island, Masonville Cove, Poplar Island, and Swan Creek (at Cox Creek) help students meet environmental literacy graduation requirements. Through hands-on field activities, teachers and students discovered how MPA plays a crucial role in habitat restoration. Educators and industry job trainers received a firsthand look at the importance and scope of the Port of Baltimore

through a week-long summer externship organized by the Baltimore Port Alliance Education and Outreach Committee, working collaboratively with Anne Arundel Community College and the Southeast Maritime and Transportation Center (SMART) of Norfolk, VA. Nineteen participants from the Baltimore region, Houston, Norfolk, and New York spent time with 21 maritime agencies, learning about the vast Port infrastructure and the coordination needed to deliver cargo between ports.

B. MPA and Corps Collaboration

Given the continued significant challenges facing the State's DMMP and Corps' Dredged Material Management Plan, the Management Committee continues to encourage regular executive level strategy meetings between MPA and the Corps.

Shortfalls in the Corps' dredging budgets are affecting channel reliability at a critical time as larger and wider vessels with drafts near 50 feet are calling on the Port of Baltimore more frequently. Full availability of authorized channel depths and widths is critical to safe navigation. The larger the vessel, the less margin there is for navigational error. Groundings could have significant adverse effects on the business of the Port and the ecology of the Bay and those who use it. This situation requires close coordination and collaboration among MPA, the Corps, and the Association of Maryland Pilots to minimize negative impacts on navigation. Throughout 2015, MPA continued to employ a coordinated outreach strategy to all levels of the Corps including quarterly meetings with the Baltimore and Philadelphia Districts and the North Atlantic Division. MPA also meets annually with Corps headquarters and the Assistant Secretary of the Army for Civil Works, and the OMB. The purpose of these meetings is to maintain relationships with all levels of decision makers within the Corps and the agencies responsible for federal budget recommendations. Additionally, working through AAPA, MPA continues to be heavily engaged with the Corps as it develops its budget transformation strategy, a national initiative intended to adjust navigational needs to available dollars, and its implementing guidance for WRRDA 2014. These lines of communication are important to establishing a greater understanding of the Port of Baltimore's business plans, local and regional economic impacts, and expectations for growth that drive the needs of the DMMP.

***Challenge:** With ever increasing constraints on federal funds and new federal agency procedures and policies, coordination among MPA, the Corps, Port customers, stakeholders, and the Pilots must be further strengthened. In addition, the MPA must continue to communicate with all levels of decision makers within the Corps at the District, Division, and Headquarters levels as well as with the agencies responsible for federal budget recommendations.*

V. BALTIMORE HARBOR PROJECTS

A. Hart-Miller Island

An interagency agreement among MPA, DNR, and MES to facilitate public access to the South Cell of HMI for passive recreation was approved by the Executive Committee at its August 20, 2015 meeting and the agreement was signed on August 20, 2015. Fulfillment of the terms of this agreement will enable public access to the South Cell, currently planned for 2016. The agencies

will continue to work with the HMI Citizen's Oversight Committee on the implementation of the agreement.

The Maryland Environmental Service (MES), the University of Maryland Center for Environmental Science, and others have been working with MPA to resolve the issue of how to manage over 600,000,000 gallons of water in the North Cell. The pond is now less than 50 million gallons. In previous years, discharges have been limited due to low pH values. MES has provided a Master Plan of HMI existing features that will need to be developed, enhanced, or removed for the development plan. MES is also working with technical experts to develop a hydraulic model that analyzes the island's stormwater holding capacity as it relates to habitat goals. Phase I of the Master Plan, initial findings, was completed in 2015 and will provide critical information needed to determine the most feasible options for the final closure plan for the North Cell.

B. Cox Creek

During the 2015 dredging season, approximately 600,000 cubic yards of dredged material from the Ft. McHenry and Seagirt Loop channels was placed in the Cox Creek DMCF. MPA established a monitoring plan to document current and estimate potential sediment and nutrient loads that are expected to be released into the Harbor in the future. In March 2012, MPA initiated a formal request to MDE to modify the Cox Creek and Masonville State discharge permits and create an overlay permit to allow for the sharing of current and future nutrient waste load allocations for Cox Creek, Masonville, and future MPA facilities. Subsequent to internal study, public notice, and a comment period, MDE issued the requested overlay and modified discharge permits with an effective date of May 1, 2015. As of this time, Cox Creek remains the primary location of a potential Innovative Reuse processing facility.

C. Masonville

In 2015, approximately 952,000 cy of dredged material from the Seagirt-Dundalk Connecting Channel and the Dundalk West Channel inflowed to the Masonville DMCF.

Remediation and habitat restoration continued in Masonville Cove. Work included clearing invasive vegetation, hauling soil, and capping. Fine-tuning of plantings in Access Zone 1 continued, with replacement of dead trees as well as shrub and grass plantings at the living shoreline expansion. Trees were planted in Access Zone 2, funded through a DNR grant. Capping began in Access Zone 3, and by the end of the year trees were planted via the DNR grant. Fine-tuning of the plantings in the fringe wetland also continued.

The reef and fish habitat improvement project in Masonville Cove was completed in 2015. Sand placement was completed early in the year; shortly thereafter 2,000 reef balls (concrete structures designed to provide fish habitat) were placed in the Cove.

In 2014, MPA coordinated with DNR to construct an eel passage mitigation project at Daniels Dam; 2015 saw increased utilization of the passage by eels and other wildlife. Another mitigation project in partnership with DNR, shad and herring stocking, completed its third year in 2015.

MPA continued coordination with Baltimore City regarding the Biddison Run stream restoration, including funding a portion of work adjacent to Moravia Road. City funding constraints continue to delay the remainder of the project.

As part of the mitigation requirements for the Masonville project, MPA agreed to install five trash interceptors. The Jones Falls Waterwheel, coordinated with the Waterfront Partnership of Baltimore, continued successful operation throughout 2015. As of September 30, 2015, 1,583 cy (341 tons) of debris had been removed by the waterwheel. MPA design of the Masonville trash interceptor was completed in 2015, and is currently in the procurement process. MPA design of two of the remaining locations is ongoing; design of the fifth location is being completed by Baltimore City.

D. Coke Point

The Harbor Team recommended Coke Point as a third potential DMCF in 2003, and reaffirmed this recommendation in 2011. MPA completed a Draft Feasibility Study Report for the site in 2012. Permitting and environmental impact documents for this option have been delayed due to uncertainty about the plans of the property owners. If a DMCF could be established at Coke Point, the annual dredged material placement capacity is expected to be about 1.0 mcy. MPA remains interested in siting a DMCF at Coke Point.

E. Cox Creek Expanded and Confined Aquatic Disposal

The Harbor Team Recommendations of 2011 included a combined Cox Creek-Millennium placement option as a backup to Coke Point, and a CAD pilot project.¹

In 2015, MPA continued with Stage 1 of a feasibility study to evaluate the potential expansion of the Cox Creek DMCF onto adjacent MPA owned property. The Board of Public Works has approved funding for several components of the project, including design, demolition of the upland buildings, dike construction, and potential mitigation. Building demolition is expected to start in the fall of 2015. The design of a new dike is scheduled to begin by late 2015/early 2016. Outreach to interested stakeholders is continuing. There has been no public opposition to raising the existing DMCF dikes. Separately, MPA is exploring the possible acquisition of the Cristal USA, Inc. site (formerly known as Millennium Inorganic Chemicals) which is adjacent to MPA's Cox Creek property, and is being offered for public sale. A Phase II Environmental Site Assessment was conducted in 2015, and a second stage of the feasibility study may occur pending negotiations with Cristal USA, Inc.

MPA has received the necessary permits for a pilot CAD project at Masonville. The project is scheduled to begin in 2016.

¹ CAD is defined as excavation of cells beneath existing navigation channels or anchorages by dredging in areas where there is commercial-grade sand and gravel underneath the channels or anchorages. These cells would be backfilled with material from maintenance dredging. In most cases, overburden material would have to be removed to access the sand and gravel. This overburden material would be placed in a dredged material containment facility. The commercial-grade sand and gravel would be used in upland construction projects or possibly in beneficial use projects such as capping contaminated areas elsewhere in the harbor.

VI. CHESAPEAKE BAY CHANNELS AND PLACEMENT SITES

A. Paul S. Sarbanes Ecosystem Restoration at Poplar Island and Poplar Island Expansion

The Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, generally known as Poplar Island, continues to be a national showcase for the beneficial use of dredged material. Significant positive environmental benefits have already been identified though the project is still far from complete. Poplar Island hosts a nationally protected migratory waterfowl, the American black duck, and two ground nesting colonial water birds, the Common Tern and the Least Tern. The Least Tern has threatened status on Maryland's list of rare, threatened and endangered animals. The Maryland Department of Natural Resources expects that the Common Tern will be listed as endangered in 2016. Both tern species nest at Poplar Island. For several years, Poplar Island had been the only site within Maryland's portion of the Chesapeake Bay to host an active Common Tern colony.² Altogether, over 200 different bird species have been identified onsite or just offshore. Additionally, Diamondback terrapins nest on the island. Fish usage shows that as the project's wetland cells mature, abundance of two target nekton species (mummichog and grass shrimp) exceeds that seen in surrounding reference marshes. Also, researchers have shown that the restored wetlands support significantly higher abundances of monitored species than was observed in baseline remnant marsh surveys.

Habitat restoration continues with grading in the undeveloped wetland areas; cell 3A was planted in June 2015 and cell 3C is scheduled for planting in 2016.

Approximately 3.4 mcy of dredged material was placed at Poplar Island during the 2014/2015 dredging season – approximately 2.7 mcy from the Maryland Bay channels and 0.7 mcy from the C&D Canal approach channels. For the 2015/2016 dredging season, it is anticipated that approximately 2.0 mcy of dredged material from the Maryland Bay Channels will be placed at Poplar Island.

Poplar Island remains the only placement option for sediments dredged from Bay channels located in Maryland waters south of Pooles Island. With authorization of the increased costs for the Poplar Island Expansion project in WRRDA 2014, the next challenge will be ensuring sufficient funding within the Corps' budget to complete expansion of the project. In federal fiscal years 2017 and 2018, Maryland will need substantial increases over recent funding received for the Poplar Island project. Working with all parties involved in the federal budget process to advocate for increased budgetary resources to begin this next major construction phase of the project will continue to be a major focus for MPA in 2016.

Challenge: MDOT and MPA need to work with all levels of the Corps, the federal OMB, and the Maryland Congressional Delegation to ensure sufficient funding in the Corps' budget in federal fiscal years 2017 and 2018 to complete expansion of the Poplar Island footprint.

² In July 2015 a nesting colony of Common Terns was found near Masonville Cove.

B. Mid-Chesapeake Bay Island Ecosystem Restoration Project - James Island and Barren Island (Mid-Bay)

One of the strategies for providing capacity needed for Bay channel dredged material after Poplar Island and its Expansion have been fully utilized is implementing other island protection and restoration projects south of Poplar Island, in the Mid-Chesapeake Bay. The Corps and MPA have developed and approved a plan for Barren Island and James Island. The Mid-Bay project has the strong support of the Dorchester County government and local citizens. WRRDA 2014 authorized the Mid-Chesapeake Bay project for construction. MPA and the Corps are in discussions for the design agreement for the project and the timing of project construction. It is expected that these items will be decided in 2016.

Challenge: MPA and the Corps will need to work closely in designing the project and developing a plan for project construction and construction funding to insure that the Mid-Bay project is available in a timely fashion to satisfy the WRRDA authorization requirements and meet dredged material placement needs.

C. Upland Sites - Chesapeake and Delaware Canal

The C&D Canal is important to the Port of Baltimore as it provides the shortest route from the Port of Baltimore to the Atlantic Ocean and is particularly favored by many auto-carrier ships making the journey between Baltimore and ports in New York/New Jersey and New England.

Planning has been underway since 2009 to identify a placement site to replace the Pooles Island open-water site that closed in 2010. The Corps' Philadelphia District is responsible for maintenance of the upper Bay approach channels and the C&D Canal proper. That District owns the DMCFs along the approach channels and the Canal itself. The Philadelphia District has historically used the Courthouse Point and Pearce Creek DMCFs for placement of approach channel material. The Philadelphia District also utilizes a number of local DMCFs along the Canal (including Bethel and Chesapeake City) for material dredged from the Canal proper.

In December 2014 MDE issued a WQC to the Corps for the Pearce Creek DMCF. The WQC is needed before the site can re-open. The Corps has coordinated with MDE on the design of a liner for the DMCF, which is a condition in the WQC. The liner's design was approved by MDE in the summer of 2015. Installation of the liner is on schedule in advance of the 2017 dredging season. The Corps is working on a water quality monitoring plan prior to the re-opening of the site.

MPA is funding a water supply line from the Town of Cecilton to properties within the zone of influence of the groundwater contamination. A new water supply is needed to address the degradation of water quality in drinking water wells in the vicinity of the DMCF that was identified by a study conducted by the U.S. Geological Survey. Agreements are in place with Cecil County and the Town of Cecilton to proceed with the water supply project. The Town of Cecilton, which has its own community well, will be the provider of the new water supply. Extensive outreach has been ongoing and will continue in West View Shores, Bay View Estates, and Sunset Pointe. The water line is expected to be completed by the time the placement of dredged material begins in the fall of 2017.

A Pearce Creek Implementation Committee was formed in 2015 with representation from citizens and government agencies to share information and receive feedback on the progress of the project, and is meeting every two months in Cecilton. A project website has also been created.

***Challenge:** Continued collaboration and coordination among the Corps, MPA, MDE, Cecil County, the Cecil County Health Department and citizens are needed to ensure that the DMCF liner and the water supply line are completed on time.*

D. Lower Bay Sites

Most ocean-going vessels travel to and from the Port of Baltimore through the southern approach commonly referred to as the 50-foot channel, a deep north-south route extending 150 miles from the Port of Baltimore to the Atlantic Ocean at Cape Henry, Virginia. The Lower Bay channels servicing Port-bound vessels include Cape Henry, York Spit and Rappahannock Shoal. Placement capacity is adequate for the next 20 years. The placement sites include the Norfolk Ocean Disposal Site, the Wolf Trap Alternate and the Rappahannock Shoal Deep.

VII. CONTINGENCY PLANNING - OCEAN PLACEMENT

Ocean placement of dredged material at the Norfolk Ocean Disposal Site is an alternative that is included in the Maryland DMMP as a contingency option if other placement options are not available. Ocean placement of dredged material is regulated under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972, which requires that any proposed placement of dredged material into ocean waters be evaluated through the use of criteria published by EPA.

The Corps' Baltimore District and the EPA established a schedule for the triennial sediment testing to be conducted as a requirement of maintaining authorization for ocean placement. The first round of triennial sediment testing was conducted in 2012 through 2013. On October 2, 2014 EPA sent correspondence to the Corps that concurred with the ocean placement option for each of the Upper Bay Channels for the period 2014 to 2017. This concurrence will expire on October 2, 2017. MPA will continue the triennial sediment testing in 2016 to ensure requirements are met prior to the October 2, 2017 expiration. The goal is to maintain the EPA and Corps authorizations that are necessary to allow the retention of the ocean placement option as a component of the overall DMMP planning efforts.

The Baltimore District is continuing to update its Dredged Material Management Plan. As the update process moves forward, the Corps will evaluate the use of ocean placement as a contingency plan. If ocean placement is determined to be a preferred alternative in the Corps' Dredged Material Management Plan, the Corps would prepare an Environmental Assessment for the ocean placement option and release a public notice in both Maryland and Virginia. The Corps indicates that federal cost sharing would not be available for ocean placement even if it is included as a viable option in its Dredged Material Management Plan.

Challenge: MPA needs to continue regular testing to ensure that ocean placement is a viable contingency alternative.

VIII. PROJECTED NEW WORK DREDGING

Several significant projects will require new work (i.e., not maintenance) dredging in the future. In February 2012, the MPA requested that the Baltimore District complete the congressionally authorized second phase of the Baltimore 50-foot channel project, i.e., bring all channels in this project from their current widths to their authorized maximum widths. Generally, in the lower Bay, channel widths would increase from 800 feet to 1,000 feet and, in the upper Bay and Harbor, main channel widths would increase from 700 feet to 800 feet. The Corps and MPA are collaborating on a feasibility-level General Reevaluation Report to analyze the need for completing the widening. This study is expected to be completed in 2017. Completion of the project will require dredging of approximately 5.8 mcy in Maryland waters and 7.2 mcy in Virginia waters.

MPA has recently completed dredging to improve the use of Seagirt Marine Terminal by widening access in the Seagirt-Dundalk Connecting Channel and the Dundalk West Channel to accommodate turns of larger vessels. This effort is a part of the \$10 million federal Transportation Investment Generating Economic Recovery (TIGER) grant awarded to MPA in 2013 to build more access to rail, expand storage at Fairfield Marine Terminal, and help widen the channel at Seagirt Marine Terminal to accommodate bigger ships. Approximately 80,000 cy of material dredged from the Seagirt channel will be used to complete the filling of an outdated wet basin at Fairfield Marine Terminal, thereby creating 7.6 acres that can be used for car and heavy equipment storage.

As cargo continues to grow, MPA will eventually need new marine terminals, which it estimates will require upwards of 9.0 mcy to 10.0 mcy or more new work dredging. MPA also expects some private sector new work dredging for expansion of existing private terminals and potentially even a new marine terminal.

Challenge: Sufficient dredged material placement capacity for new work dredging projects will be needed in order to meet the needs of a growing port and economy over the next 20 to 30 years.

APPENDIX 1: ELEMENTS OF THE MARYLAND DMMP



APPENDIX 2: 2015 MEMBERS OF THE DMMP EXECUTIVE COMMITTEE

Chesapeake Bay Foundation

Alison Prost

Maryland Executive Director

DMMP Citizens' Advisory Committee Liaison

Francis Taylor

North Point Peninsula Council

DMMP Committee Liaison

Donald Boesch

University of Maryland Center for Environmental Science

Maryland Department of Natural Resources

The Honorable Mark J. Belton (Co-Chairman)

Secretary

Maryland Department of the Environment

The Honorable Ben Grumbles

Secretary

Maryland Department of Transportation

The Honorable Pete K. Rahn (Co-Chairman)

Secretary

U.S. Army Corps of Engineers

Colonel Edward P. Chamberlayne

District Engineer, Baltimore

U.S. Army Corps of Engineers

Lt. Colonel Michael A. Bliss

District Engineer, Philadelphia

APPENDIX 3: 2015 MEMBERS OF THE DMMP MANAGEMENT COMMITTEE

Association of Maryland Pilots
Captain Eric Neilsen
Captain Jessie Buckler (alternate)

Baltimore Port Alliance
Rupert Denney

Chesapeake Bay Foundation
Alison Prost

DMMP Citizens Advisory Committee
Francis Taylor

EPA Region III
Vacant

Maryland Department of the Environment
Matthew Rowe

Maryland Environmental Service
James Harkins

Maryland Geological Survey
Richard Ort

Maryland Port Administration
Dave Blazer

Maryland Department of Natural Resources
Bruce Michael

Maryland Department of Transportation Policy & Governmental Affairs
Andy Dentamaro

National Marine Fisheries Service
Kristy Beard

NOAA Chesapeake Bay Office
Peter Bergstrom

Rukert Terminal Corporation
Steve Landess, P.E.

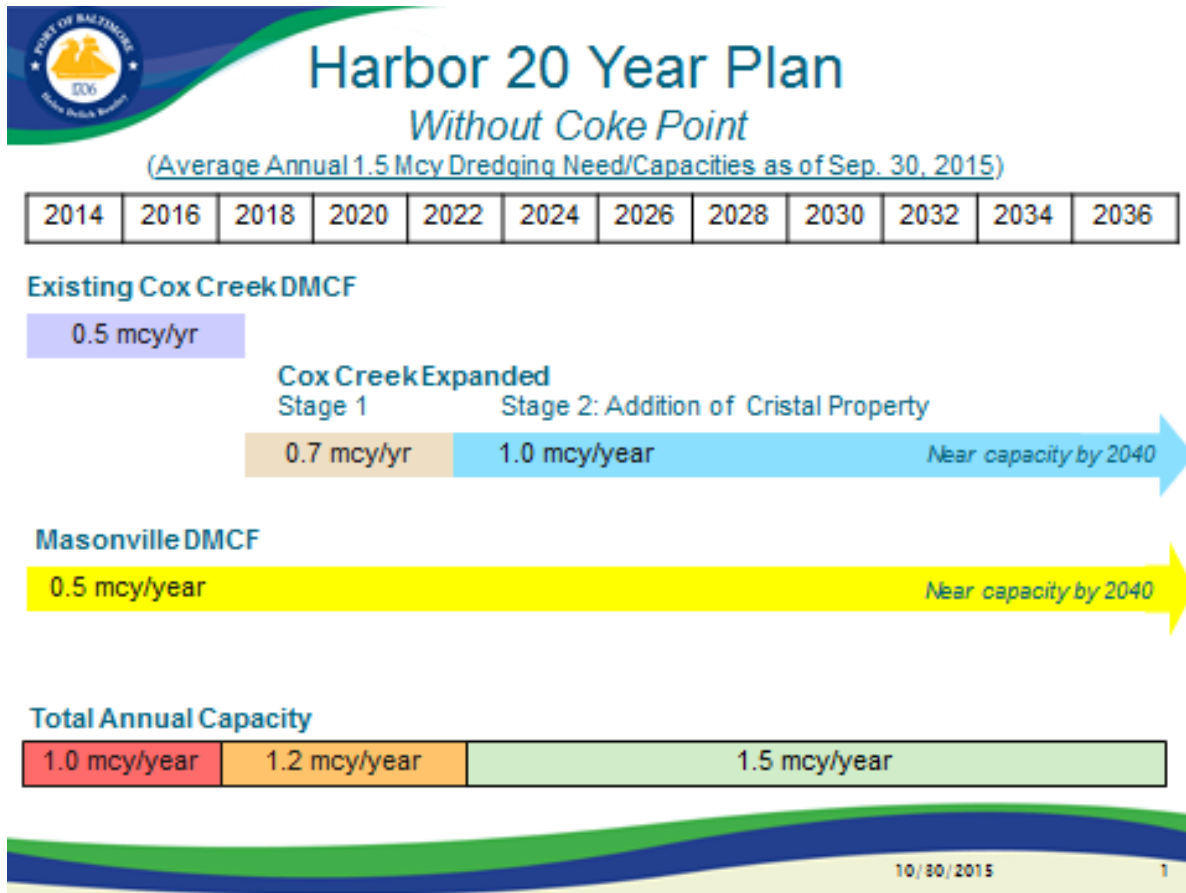
U. S. Army Corps of Engineers, Baltimore
Steve Brown
Justin Callahan (alternate)

U. S. Army Corps of Engineers, Philadelphia
Anthony DePasquale
Tim Kelly (alternate)

U. S. Fish & Wildlife Service
Genevieve LaRouche
Bob Zepp (alternate)

University of Maryland Center for Environmental Science
Donald Boesch
(DMMP Management Committee Liaison)
David Nemazie (alternate)

APPENDIX 4: CURRENT 20-YEAR DREDGED MATERIAL PLACEMENT PLAN





Bay & C&D Approach 20 Year Plan

(Annual 3.2 Mcy Dredging Need)

2.0 Mcy Bay Channels, 1.2 Mcy C&D; Capacities as of Sep. 30, 2015

2014	2016	2018	2020	2022	2024	2026	2028	2030	2032	2034	2036
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Pearce Creek

1.2 mcy/yr

Near capacity by 2037

Poplar Island & Vertical Expansion

2.0-3.2 mcy/yr Near cap. by '20

Lateral Expansion

2.0 Mcy/year

Near capacity by 2030

Mid-Bay (near cap. by 2060)

2.0 – 3.2 mcy/year

Total Annual Capacity

2.0 mcy/year

3.2 mcy/year

10/30/2015

2

**APPENDIX 5: HARBOR TEAM RECOMMENDATIONS FOR FURTHER STUDY
COKE POINT BACKUP OPTIONS
Report to the Management Committee
and
Executive Committee of Maryland's
Dredged Material Management Program
September 15, 2011
EXECUTIVE SUMMARY**

The Harbor Team considered 23 potential options for backup to Coke Point over a period of one year.

The Harbor Team agreed to the following recommendations:

Strengthening the standards that apply to all dredged material management and community enhancement options;

Convening a committee to investigate and recommend innovative methods of funding community enhancement projects;

Pursuing a placement site with community enhancements at Coke Point as vigorously as possible – with Coke Point remaining the Harbor Team's highest priority;

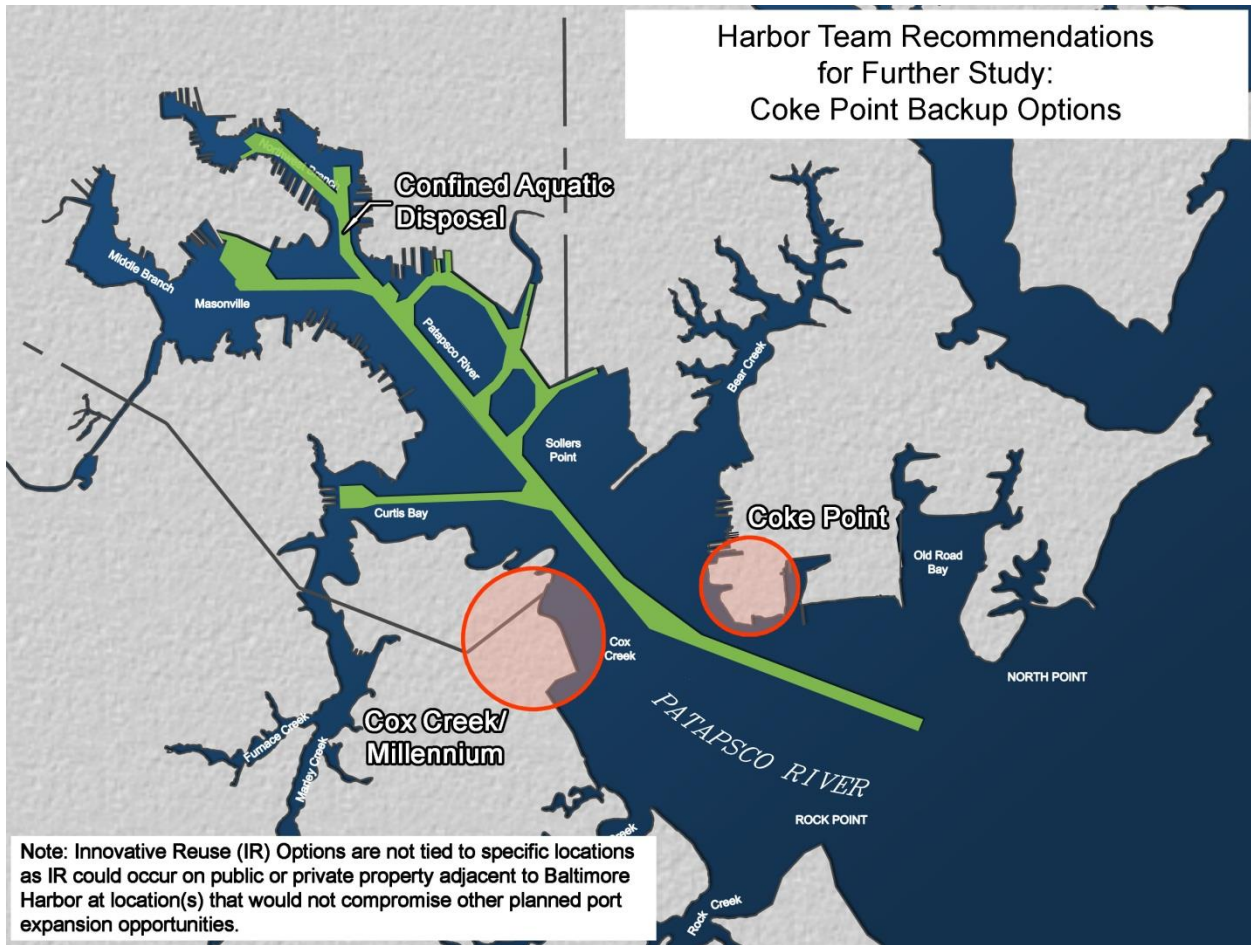
Conducting a feasibility study to assess innovative reuses already under consideration with a goal of innovatively reusing at least 500,000 cubic yards of dredged material per year by 2023 and answering questions necessary to determine if innovative reuse can become a viable part of the State's Dredged Material Management Program;

Coordinating a plan to conduct a pilot test of Confined Aquatic Disposal (CAD) to determine if MPA could obtain the necessary permits to conduct a pilot test; conducting a pilot test if permits are issued; and, if pilot tests results are favorable, conducting a feasibility study of the use of CAD for harbor materials;

Ranking the Combined Cox Creek Millennium option as the highest priority of the land-based backup options to Coke Point for further study with two provisos:

1. Conducting community outreach to determine whether or not raising the dikes on the existing Cox Creek Dredged Material Containment Facility would be acceptable; if not, this feature would be dropped from further consideration.
2. Holding public information meetings in Anne Arundel County and Baltimore City as close to the zip code of the option as possible.

Harbor Team Recommendations
for Further Study:
Coke Point Backup Options



Note: Innovative Reuse (IR) Options are not tied to specific locations as IR could occur on public or private property adjacent to Baltimore Harbor at location(s) that would not compromise other planned port expansion opportunities.