



DREDGED
MATERIAL
MANAGEMENT
PROGRAM

MARYLAND PORT ADMINISTRATION DREDGED MATERIAL MANAGEMENT PROGRAM 2024 MID-YEAR REPORT

2024: Building the Future Together

The Dredged Material Management Program (DMMP) put forth the following recommendations for 2024 to further support the Port of Baltimore in achieving success that will benefit our region economically, environmentally, and socially for decades. Toward these ends, the Maryland Port Administration (MPA) continues to work closely with DMMP committee members, elected officials, state and federal agencies, non-profit and community organizations, business partners, and other stakeholders to build a future together.

» Funding & Policy Recommendations

1. Engage federal, state, and local elected officials, the American Association of Port Authorities, and other federal and state partners to ensure favorable legislation and sufficient funding for priority DMMP projects, the U.S. Army Corps of Engineers (USACE) navigation program, and projects that benefit and favorably position the Port of Baltimore in new legislation related to resilience and climate change.
2. Leverage partnerships with stakeholders and related collaborative efforts to facilitate legislation and funding. Examples of this work include engaging with the Maryland Commission on Climate Change, working with the Maryland Green Purchasing Commission to establish purchasing specifications for recycled materials and products, and partnering with the Maryland Department of Natural Resources on a Regional Sediment Management Plan. These efforts will help the DMMP and the Port address sustainability, climate change, and resiliency planning.
3. Seek available funding for DMMP-related greenhouse gas (GHG) emissions reduction projects at the state and federal levels to meet the state's target of 60% reduction by 2031 and net zero by 2045.

» Planning & Operations Recommendations

1. Conduct capacity and dredging demand planning beyond a 20-year timeframe to support long-term sustainable dredged material management options. Continue planning, design, and construction for future expansions at Masonville and Cox Creek dredged material containment facilities (DMCF) and mitigate associated environmental impacts while achieving capacity recovery through the 2020 Innovative Reuse & Beneficial Use Strategy.
2. Continue to remediate the Cox Creek Sediment Technology and Reuse (STAR) facility and prepare the site to implement long-term, large-scale Innovative Reuse and capacity recovery efforts.
3. Incorporate the potential impacts of climate change and facilitate using nature-based and climate-resilient solutions into long-term DMMP project planning, DMFC design and operations, and related project delivery. Concurrently, leverage the best science available to quantify carbon sequestration benefits from the beneficial use of dredged material.
4. Explore alternative funding and cost savings options to advance the Hart-Miller Island North Cell's habitat design and future management in partnership with the Maryland Department of Natural Resources.
5. Engage USACE, the Commonwealth of Virginia, resource agencies, and other stakeholders to refine the list of suitable, cost-effective dredged material placement options for the Virginia Channels, including beneficial use opportunities.
6. Ensure that planning, design, construction, and operational efforts related to DMMP infrastructure and restoration projects strive to minimize environmental impacts, consider the equitable distribution of benefits, and ensure that vulnerable communities do not disproportionately bear associated adverse impacts.

» Outreach & Education Recommendations

1. Prioritize environmental justice by working closely with affected communities and stakeholders to develop and implement strategies that promote fairness and equity in the DMMP to pursue outcomes that equitably benefit all Marylanders.
2. Collaborate with and recruit members for all DMMP committees that reflect the diversity of the communities adjacent to and impacted by the Port of Baltimore and maintain transparency in DMMP decision-making processes.
3. Create equitable access to DMMP sites to engage communities, including intentionally engaging youth in educational programs as a pathway to thriving career opportunities, including those in science, technology, engineering, math, and maritime-related industries.
4. Develop and implement a comprehensive outreach and engagement strategy focused on Confined Aquatic Disposal (CAD) in Baltimore Harbor and the importance of investigating emerging dredged material management approaches.

Progress to Date and Moving Forward

The beginning of this year was overshadowed by the shocking disaster of the Francis Scott Key bridge collapse on March 26th that left six dead and temporarily closed operations at the Port of Baltimore. As Port officials and staff grieved for the loss of life, the Maryland state legislature rapidly moved to meet the urgent needs of the region by introducing and passing the PORT Act, emergency legislation that assists affected families, displaced workers, and businesses. Further, under the leadership of Governor Moore, national, state, city, and county officials are investigating the cause of the collision and worked to clear debris. MPA, led by new Executive Director Jonathan Daniels, collaborates closely with these partners who swiftly and safely reopened the critical Fort McHenry Federal Channel to its original fully operational dimensions of 700 feet wide and 50 feet deep for commercial maritime transit in early June. The DMMP team continues to adapt and innovate while delivering on the mission to maintain the Port's 50-foot-deep channel system. Despite this tragedy, the first half of 2024 has still brought significant success as priority projects advance on or ahead of schedule. Communities continue to collaborate with MPA regarding planning and decision-making, and the DMMP remains committed to pursuing outcomes that are informed by science and equitably benefit all Marylanders.

» Funding & Policy

MPA continues to engage congressional delegations and federal and state partners to ensure favorable legislation, sufficient funding, and support for climate change and resilience planning.

- MPA submitted two requests to the Congressional Water Resources Development Act (WRDA):
 - » authorization of construction on the Baltimore Harbor Anchorages and Channels Modification of the Seagirt Loop Channel; and
 - » full assumption of operation and maintenance of the Seagirt Loop Channel by the USACE for deepening work previously implemented by the State of Maryland.
- MPA is working with USACE to identify federal priorities and submit funding requests to the Congressional Delegation. This includes the USACE FY2023 Work Plan that allocated \$3.22 M in operations and maintenance funding to dredge the Honga River and Tar Bay to improve access for watermen. USACE received an additional \$3.6M in the FY2024 workplan for Honga River dredging. Once containment features are constructed at Barren Island, part of the Mid-Chesapeake Bay Island Ecosystem Restoration (Mid-Bay) Project, the site can receive dredged material. The contract award for the second phase of construction at Barren Island, which will complete the confinement area, is anticipated this summer.
- To help meet MPA's commitment and the State's target to reduce GHG emissions, MPA applied to the EPA's new \$3 B Clean Ports Program, which funds zero-emission port equipment and infrastructure and climate and air quality planning at U.S. ports. A total of \$100 M was requested for equipment, infrastructure, and planning through two separate Notice of Funding Opportunities: (1) the Zero-Emission Technology Deployment Competition and (2) the Climate and Air Quality Planning Competition. Awarded funds would support the replacement of several pieces of equipment at DMCF sites, provide critical support to communities, and ensure meaningful community engagement in the Port's emissions reduction planning and project development process.
- MPA has applied for an Invasive Species Eradication grant administered by the U.S. Fish and Wildlife Service. Invasive species pose a significant threat to the ecological, economic, and cultural integrity of sites, and management over three years will not only assist in eradication but also significantly reduce the level of effort needed for invasive control in the future. The project sites, including the Cox Creek DMCF, Masonville DMCF, and the Poplar Island Ecosystem Restoration Project, represent critical biodiversity conservation and habitat restoration areas. MPA seeks to achieve measurable reductions in common reed acreage annually, ensuring the recovery and resilience of native ecosystems. In addition, at Cox Creek DMCF research will focus on developing a pilot project to eradicate Eurasian watermilfoil. At Masonville, MPA will continue the study of *Lespedeza* eradication through differentiation of test plot control methods. At Poplar Island, staff will work to understand the possible long-term impacts on soil and vegetation recovery after applying imazapyr to control common reed, thereby contributing to the overall health and balance of the ecosystem.
- MPA and the University of Maryland received a Federal Highway Administration Climate Challenge Grant to study constructing vegetative berms from Baltimore Harbor dredged material and dredged material blends for flood protection. This involves creating and testing dredged material blends with three specific criteria defining a successful blend: (1) appropriate geotechnical properties, (2) acceptable environmental properties, and (3) the ability to rapidly establish vegetation in a berm setting and (4) developing a Life Cycle Analysis model and Environmental Product Declaration. An optimized blend that best meets all criteria is being thoroughly tested. Results are expected in 2025.

» Planning & Operations

MPA continues implementing strategic operational initiatives aligned with the rolling 20-year plan, including expanding dredged material containment facilities (DMCF), optimizing capacity, and exploring new management techniques for sustainable climate-resilient solutions. Ongoing implementation continues with inflow at the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island (Poplar Island) Expansion and the Masonville and Cox Creek DMCFs.

Poplar Island

- Poplar Island is an international model for the beneficial use of dredged material. The 1,715-acre site includes 71.1 million cubic yards (mcy) of DM capacity, currently with 29 mcy remaining. The next inflow is expected in winter 2024/2025.

Masonville DMCF and Cove

- Dike raising at the Masonville DMCF to an elevation of +30' is 30% complete and slated for completion by Spring 2026. The dike raising first requires drainage improvements on one of the neighboring Mercedes Benz lots, followed by raising the dike to +30'. The design for raising the dike to +42' will begin in the second half of 2024. The final elevation of +42' will result in the site gaining approximately 5.6 mcy of capacity.
 - » The initial 30% design process is underway for the Masonville Cove Connector (MCC), a shared-use path providing safe and equitable access to Masonville Cove. With funding from the Federal Highways Administration Federal Lands Access Program, the MCC will run along Frankfurst Ave., linking Masonville to the Gwynns Falls Trail and adjacent communities. The MCC project team is currently working on the 30% design phase, with the completion of 100% design in 2026. Robust stakeholder engagement continues to support collaboration in developing an option that serves all users of Frankfurst Ave.

Cox Creek DMCF and Swan Creek

- In 2023, MPA achieved a significant construction milestone at the Cox Creek DMCF by completing the raising of the upland dike +60', providing 8.5 mcy of additional capacity. The feasibility study for the next expansion phase, raising to +80', is complete, and MPA is currently soliciting proposals from consultants for the design.
 - » MPA plans to submit a request to the Board of Public Works to secure the easement and begin constructing the Genesee Valley Outdoor Learning Center mitigation project for the Cox Creek DMCF expansion once all permit approvals are obtained.
 - » Progress has also been made on the Swan Creek Nature Trail adjacent to the Cox Creek DMCF, developed in close collaboration with the Cox Creek Citizens Oversight Committee. This trail will create an approximate two-mile loop through the forest conservation easement area, providing valuable outdoor recreation and education opportunities and enhanced access for surrounding communities. The design is expected to be complete in August, with permitting in progress. Construction is anticipated to begin in December 2024, with the goal of opening the trail to the public in 2025.

Mid-Bay

- The Mid-Bay Project is advancing, with notable progress on both Barren and James Islands. It will continue employing the beneficial use of dredged material as Poplar Island approaches placement capacity. In partnership between the USACE and MPA, the project will restore 2,144 acres of valuable remote island habitat within the Chesapeake Bay while providing a total capacity of 90-95 mcy over the next 30+ years.
 - » Phase 1 Construction for Barren Island, which includes installing most of the protective stone sills and breakwaters that line the island's western side, is over 65% complete and is expected to be finished in fall 2024. Phase 2 contract solicitation began in May 2024 and includes construction of two bird islands, foundation remediation and completion of the northeast sill, design, and installation of spillway structures, modification of the existing sill to incorporate materials to limit material egress from the site, installation of geotextile structures filled with suitable materials from a nearby borrow area, and dredging and placement of material from Honga and Tar Bay federal navigation channels. This contract is likely to be awarded this summer.
 - » James Island's initial design is ongoing, with modeling and geotechnical analysis being used to determine the final alignment and structural components of the project. The first contract for this work will be awarded in the fall of 2025. A second "Engineering with Nature" Workshop was held in February 2024, and the highest-ranked measures will proceed to modeling. The Value Engineering Study occurred in May 2024. James Island is expected to begin seeing inflow as soon as 2028.

» Planning & Operations

Innovative Reuse and Beneficial Use

- MPA has achieved significant Innovative Reuse and Beneficial Use (IRBU) milestones and advanced toward strategic programmatic goals.
 - » The Cox Creek STAR facility will explore innovative reuse opportunities. The site was formerly used for heavy industrial activities and requires remediation due to contamination, so MPA is working with Maryland Department of Environment to develop remedial action plans for each operable unit on the site, with approvals already obtained for two units. Short-term plans include setting up a geotube field for drying dredged material near the Cox Creek DMCF, facilitating a closed-loop water collection and reuse system, and constructing a haul road between the two properties to enable easy and efficient access between the sites.
 - » Discussions are underway with Baltimore City to supply dredged material as daily cover for the Quarantine Road landfill.
 - » The Maryland Board of Public Works has approved seven IR Research & Development (R&D) contract awards for high-volume, sustainable reuse applications that support long-term, strategic planning initiatives and identify the critical steps to making large-scale innovative reuse a reality at the Port of Baltimore. All material supplied by MPA for these projects has been thoroughly tested according to the Maryland Department of the Environment guidance for IRBU, meeting all necessary criteria.
 - » Results from six of the IR projects have been shared, and the products — such as manufactured bricks, soil reengineering for sod growth, incorporating dredged material in concrete mixtures, and use as a lightweight aggregate — show potential for large-scale implementation. Noteworthy, completed projects include collaborations with Belden-Eco Products, FasTrak Express, Harford Industrial Materials Inc., Northgate Environmental Management, Suscon Products, and CSI Environmental, and cover various innovative reuses that have been deemed safe for residential and commercial use according to Maryland Department of Environment Guidance standards. At the May 28 Innovative Reuse Committee meeting, CSI Environmental presented results from their project where they hydraulically dredged material from the Cox Creek DMCF into geotextile tubes for shoreline flood protection, and they were vegetated at the final project site at BGE Spring Gardens.
 - One additional pilot project, led by the University of Maryland, is underway to research vegetative earth berms that utilize dredged material blended with recycled materials for stormwater management.
 - MPA will award two new R&D contracts in the second half of 2024.
 - » A new opportunity emerged in 2024 with the potential to reclaim large amounts of capacity at the Cox Creek DMCF: COMUS Sustainable Pozzolan Products research that explores using harbor dredged material as a natural pozzolan, or a supplemental cementitious material to help reduce GHGs associated with traditional cement production methods. Findings show that Harbor dredged material can be used as a natural pozzolan and blended with Portland Cement to create a durable “green cement” since the process does not include the usage of any fossil fuels.
 - » Two additional beneficial use projects are being implemented:
 - MPA will contribute 1,200 cy of dried dredged material for the Stoney Beach restoration and living shoreline project in northern Anne Arundel County. Construction is anticipated to start later this year.
 - In Baltimore City, the Race Street wetland area, a former Honeywell contaminated site, is undergoing a remediation project utilizing 500 cy of material. Construction is anticipated to start in mid-2024.

Hart-Miller Island

- This legislative session, House Bill 343 was passed, allowing the potential reopening of the north cell of Hart-Miller Island (HMI) to the placement of dredged material from Baltimore County if an enforceable community benefits agreement is executed with Baltimore County in consultation with the HMI Citizens Oversight Committee by the end of 2024. MPA is working with the Maryland Departments of Environment, Natural Resources, and Transportation to develop a roadmap and understand the implications of reopening HMI to the DMMP.
 - » MPA continues to partner with the Friends of HMI State Park, which re-opened for seasonal recreational use on May 1, to explore enhancement opportunities and pursue philanthropic funding.

Virginia Channels

- The Virginia Channels Bay Enhancement Working Group (VA BEWG) developed a shortlist of potential beneficial use projects, sites, and concepts that could serve as an alternative to open water placement at the Wolf Trap Alternative Placement Site. USACE and MPA are investigating shortlist options that are environmentally acceptable, cost-effective, and logistically efficient. In 2023, USACE initiated a study to refine the VA BEWG shortlist of open water alternative placement sites further and provided MPA with a technical memo in March 2024 that is currently under review. Once finalized, the VA BEWG will be reconvened for further discussions.

» Planning & Operations

Modification of the Seagirt Loop Channel

- The Seagirt Marine Terminal Berth 3 Deepening and Deep Loop feasibility study, a 3-year effort to assess options to relieve the terminal's berth capacity bottleneck and enable more efficient vessel movement, has been completed.
 - » The Chief's report, signed on June 22, 2023, concluded the Feasibility Phase of the project and allowed it to transition to the Preconstruction Engineering and Design (PED) Phase.
 - » The PED Phase will officially begin when the Design Agreement is executed (anticipated in June) between MPA and USACE to cost share the design efforts, 75% federal and 25% non-federal.

» Outreach & Education

MPA outreach efforts continue to prioritize environmental justice, diverse representation reflecting the communities served, and raising awareness about the Port's outcomes.

- MPA's education and outreach efforts have resulted in over 14,000 engagements, including interactions with 8,952 students from 334 different classrooms.
- Through pilot projects, MPA aims to investigate whether Confined Aquatic Disposal (CAD), which involves dredged material placement in an underwater depression, is a feasible method for containment of Baltimore Harbor maintenance dredged material based on cost-effectiveness, human and environmental health and safety, and benefits to the state.
 - » A proposed second CAD pilot project has been paused due to concerns from citizens and regulatory agencies. A CAD Subcommittee is being established under the DMMP's Bay Enhancement Working Group (BEWG) to explore technical aspects of a second pilot project, including environmental impacts and benefits, location selection, associated regulations, and socioeconomic benefits and effects. The BEWG will be the foundation for the CAD Subcommittee as the BEWG is comprised of a suite of scientific and technical advisors, including those from resource agencies that can support the CAD Subcommittee's investigation of whether to pursue CAD in Maryland. Meanwhile, focused stakeholder and community outreach is underway and will continue to ensure stakeholders are engaged throughout the process.
- With support from MPA and industry professionals, the Baltimore Port Alliance hosted its sixth Hiring & Career Expo, bringing together 34 employers who shared job openings at all levels and conducted interviews with a range of education and professional experience. Together, they matched five support organizations with workers impacted by the Port closure and over 300 job-seekers who learned about job openings, submitted resumes, and were pre-screened / interviewed.
 - » This was the largest event to date, and 100% of surveyed exhibitors indicated they would attend a similar event.
 - » Exit survey responses revealed that 75% of job seekers found opportunities for which they will apply, and 78% of employers met candidates they are likely to follow up with for interviews or offers.
- Mid-Bay public outreach and stakeholder engagement are ongoing as the construction and design of Barren and James Islands advance, and targeted efforts have led to increased engagement and dialogue with local water users regarding restricted safety zones related to the start of Barren Island construction.
- Masonville Cove Partnership staff began implementing inclusive principles learned from the Co-designing Conservation course to better collaborate with communities to develop conservation goals, projects, and programs curated for local communities. The Friends of Masonville Cove are leading an effort to install a new garden in front of the Education Center.
- Following last summer's successful Youth Birding Camp, the summer camp program will expand to two weeks. In addition to birding and visits to DMMP sites, this year's camp experience will introduce students to maritime-related career paths. While based out of Masonville Cove, participants can enjoy trips and learn from expert birders at various DMMP sites like Hart-Miller Island and Poplar Island.
- MPA and partners are gearing up to host the Masonville Cove Links WildSTEM summer Internship in partnership with the National Links Foundation. Focused recruitment at local Historically Black Colleges and Universities brings four interns together to explore conservation careers in non-traditional college majors, providing exposure to conservation career paths, practical experience, and a pathway for future conservation careers and leadership opportunities.