

Maryland Port Administration (MPA) Beneficial Use (BU) Program

Frequently Asked Questions (FAQs)



DREDGED
MATERIAL
MANAGEMENT
PROGRAM

General Dredged Material Information

What is dredged material?

Dredged material, as defined in the Code of Maryland Regulations (COMAR), means material excavated or dredged from waters of the state. The Innovative Reuse Program focuses specifically on the management and reuse of dredged sediments.

Why is dredging necessary?

Over time, sediment accumulates in shipping channels due to wind, tides, runoff, and human activities. Several factors may impact the sediment depth within the shipping channels, such as runoff that originates from land-based activity, weather events, or underwater sediment that shifts in the wake of commercial and industrial ship traffic. This sediment accumulation can reduce shipping channel depth, threatening safe navigation.

What is in dredged material?

Dredged material accumulating in the Chesapeake Bay and Baltimore Harbor shipping channels is mostly fine-grained; silts, clays, and some sand. The geological formations in the region, as well as human activities, affect the characteristics of the sediment in different locations. Human activities contributing to sedimentation include industrial processes, agricultural practices, and urban development. However, dredged material from the Chesapeake Bay and Baltimore Harbor shipping channels generally does not contain pollutants at levels that could cause human or environmental harm and is not classified as hazardous per regulatory standards.

How often do channels need to be dredged?

Dredging is happening continually, with an average of 4.6 million cubic yards (mcy) of sediment removed from shipping channels in the Chesapeake Bay and 1.17 mcy removed from the Baltimore Harbor shipping channels annually. That's the equivalent of filling the Baltimore Ravens' M&T Bank Stadium to the brim with sediment twice. The frequency of dredging in specific areas depends on the amount of sediment accumulated. The Maryland Port Administration (MPA) and the US Army Corps of Engineers (USACE) work together to conduct dredging and find placement sites and solutions for this dredged material, which is also referred to as "maintenance dredging."

What does MPA do with all of that sediment?

Planning for, creating, and managing the placement capacity for dredged material is the primary mission for Maryland's Dredged Material Management Program (DMMP). Each year, the DMMP must safely place the large volumes of sediment generated by the dredging necessary to keep the Port's channels safe for

commercial navigation. Placement sites today include Dredged Material Containment Facilities (DMCFs), Beneficial Use projects, and most recently, Innovative Reuse applications.

- **DMCFs:** Historically, dredged material was exclusively placed in DMCFs, sites specifically designed and developed to accept large volumes of dredged material. These facilities remain in use today and are maintained by MPA and its science and engineering partners.
- **Beneficial Use:** In 2001, MPA began using dredged material in ecologically beneficial ways, including island restoration at the [Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island](#). At Poplar Island, newly dredged material was placed at this site in the Chesapeake Bay to restore the badly eroded island. Today, Poplar Island still receives dredged material, having been restored to a thriving natural ecosystem and serving as an international model for the beneficial use of dredged material. Another beneficial use project is currently underway at the [Mid-Chesapeake Bay Island Ecosystem Restoration Project](#).
- **Innovative Reuse:** Today, MPA is exploring the use of dredged material in developing commercially viable products that can be used in construction, ecosystem restoration, landscaping, and farming.

Beneficial Use (BU) Overview

What is beneficial use?

Beneficial use is the use of dredged material in the restoration of underwater grasses or islands, the stabilization of eroding shorelines (including beaches, dunes, and wetlands), the creation or restoration of wetlands, or the creation, restoration, or enhancement of fish or shellfish habitats. Beneficial use of dredged material is a mutually beneficial process as it provides a placement opportunity for MPA for material it dredges to maintain commercially navigable channels and provides the material needed to restore animal and plant habitats.

How is dredged material tested?

Sediment dredged from shipping channels is tested before, during, and after dredging. MPA mandates testing of dredged sediments for various physical and chemical attributes to determine sediment suitability for placement within DMCFs. Dredged material is tested for organic contaminants, such as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides that bind strongly to sediments. Tests include grain size, specific gravity, metals, nutrients, pH, total organic carbon, oil, total petroleum hydrocarbon (TPH), ammonia, sulfides, cyanide, and tributyltin. A Toxicity Characteristic Leaching Procedure (TCLP) is also performed to evaluate a sample to determine if contaminants are draining out of the material, and in what concentrations.

Dredged material is also tested to determine if it can be beneficially used. If it meets specific state regulations criteria, it can be considered for “Beneficial Use.”

Are there other testing considerations?

A key consideration in determining sediment characterization requirements by MDE for beneficial uses is the source of the dredged material. Dredged material from inside the legally defined Baltimore Harbor will generally require more rigorous sediment characterization, both physical and chemical, and associated monitoring to be deemed suitable for beneficial use.

Why is MPA interested in reusing dredged material, and what are the benefits?

There are several locations in Maryland where dredged material is placed, including Cox Creek and Masonville dredged material containment facilities (DMCF). Because the Baltimore Harbor area is densely populated and because dredged material is typically placed near the area from which it was dredged, identifying new placement locations for Baltimore Harbor dredged material is challenging. Since MPA will need to manage material indefinitely, work is ongoing to stretch the life of these DMCFs, for example, by removing material from them and reusing it in innovative ways, leaving more space for future placement.

Once placed in a beneficial use project, are there any other considerations for the material?

MDE generally requires monitoring and maintenance plans for beneficial use projects to ensure there are no adverse impacts to aquatic resources and that the project continues to function as designed.

What are some specific examples of beneficial use projects?

The [Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island](#) is beneficially utilizing dredged material to restore over 1,700 acres of upland and wetland habitats. Similarly, the [Mid-Chesapeake Bay Island Restoration Project](#) at James and Barren Islands will also use dredged material to restore over 2,000 acres of upland and wetland habitat. Other locations where dredged material has been used beneficially include the Stoney Beach restoration project in Anne Arundel County and the Race Street wetlands project in Baltimore City.

Are other ports reusing their dredged material?

Ports in the following states are reusing dredged material: California, Delaware, Louisiana, Massachusetts, New Jersey, Ohio, Oregon, Pennsylvania, Texas, Virginia, and Washington.

What are these other ports using their dredged material for?

These ports utilize dredged material for both IR and Beneficial Use. Beneficial uses include habitat development, wetland and shoreline restoration, agricultural land application, crop optimization, brownfield remediation, mine reclamation, beach nourishment, levee stabilization, backfill, landfill cover, parking lot and road base material, and construction, structural, and engineering fill.

Why is dredged material blended or amended, and what are the requirements?

Dredged material can be blended or amended with other materials to meet project-specific material specifications for physical and environmental applications.

Is the reuse of dredged material cost-effective compared to traditional upland placement?

The cost to reuse dredged material varies greatly based on end use, location, technology, and volume to be reused. However, reusing dredged material reclaims valuable capacity (space) within the DMCFs. It recycles a resource, ultimately providing life cycle cost savings compared to finding, acquiring, permitting, designing, and constructing additional DMCFs.

How can I get additional information on the MPA BU Program, including where to request material?

- Please visit the Maryland Dredged Material Management Program (DMMP) website's beneficial use page (<https://maryland-dmmp.com/innovative-solutions/beneficial-use/>) for information about the MPA's BU program.
- Please visit the MPA's technical BU platform at https://gis.anchorgea.com/MDOTMPA_IRBU/ for comprehensive resources related to the beneficial use of dredged material, including background information and a form to request material.
- The Department of Natural Resources (DNR) has a variety of online tools to help organizations evaluate dredged material they are exploring using in BU projects. These tools can be found here: <https://dnr.maryland.gov/ccs/Pages/beneficial-use.aspx#:~:text=In%202001%2C%20Maryland%20passed%20the,shoreline%20stabilization%2C%20and%20island%20restoration>
- The US Army Corps of Engineers offers detailed information about beneficial use regulations, national databases, research updates, engineering guidance, regional resources, and much more on their website: <https://www.usace.army.mil/Missions/Civil-Works/Beneficial-Use-Program/>.

Obtaining and Using Dredged Material for BU

Can dredged material be requested for beneficial use?

To request more information on innovative reuse or beneficial use of dredged material, or if you are a supplier or purchaser interested in material for projects, please fill out the [Material Use /Request form linked here](#), and a MPA representative will reach out with more information. Forms and a video overview of the application process can be found on the [MPA IRBU technical platform](#).

How much material is available?

BU material availability varies. As the IR Program expands and is established, material availability will be more consistent. Please contact MPA via the [IRBU Webtool](#) to inquire about material availability.

If I don't use all of the requested material, can I return it?

No, all material removed from the DMCF must be placed in accordance with the contractor's plan for use or be moved to an approved landfill in compliance with all applicable Federal, State, and local laws and regulations.

Are there specific requirements for the hauler?

Standard hauling requirements under the Maryland Department of Transportation are applied to BU.

If I receive dredged material, what are my responsibilities?

Material received must be utilized in accordance with the contractor’s plan for material reuse/use and approved by MDE as outlined in the completed and approved [confirmation of suitability forms on the technical platform under “Material Use Request”](#).

Who is responsible for testing the material?

Testing for specific BU applications is defined in the [MDE Guidance Document](#). The user of the material will need to carry out these tests based on MDE requirements.

How do I get the material tested?

A variety of commercial laboratories can complete testing. Depending on the constituents being tested, specific laboratory accreditations and certifications may be required. More information is available in the [MDE Guidance Document](#).

Where can I find information about the regulatory review and approval process for material reuse?

MDE Confirmation of Suitability Material forms are used to document and track the suitability of dredged material for each specific end use. These forms contain information about the dredged material source sampling results and the data that have been evaluated to approve reuse. Material suppliers and receiving facilities or end users must each complete and submit one form. For more information, visit the [MDE Fill Material and Soil Management information](#) page, the MDE Confirmation of Suitability information explanatory video, and on MDE’s website: <https://mde.maryland.gov/programs/marylander/pages/dredging.aspx>.

Are long-term site monitoring requirements associated with the use of dredged material?

Any monitoring requirements associated with the reuse of dredged material may depend on its source location, intended end use, material category, and the [MDE Guidance Document requirements](#).

Does the use of dredged material need to be noted in the property records?

Under Maryland law, the MDE is the final authority on whether a project requires property recordation. In Maryland, whether the use of dredged material must be noted in property records depends primarily on the chemical characterization of the material and its intended end use. In-water beneficial use projects such as beach nourishment, island restoration, or marsh creation are governed by tidal wetlands permits and do not typically involve traditional property deed notations, as the material is placed on State-owned "bottomlands" or regulated wetlands.

Who are the points of contact for environmentally safe, beneficial use?

The MDE is the state environmental regulatory agency that holds the authority to approve dredged material for intended reuse in accordance with all applicable state laws. Specific contact information and additional links to information can be found on the [MDE Dredging and Dredged Material Management webpage](#).

Does dredged material meet any of the Maryland Department of Transportation State Highway Administration (SHA) construction material specifications?

The Maryland State Highway Administration, in partnership with MPA, drafted a material specification for the inclusion of dredged material in their standard specifications for construction and materials in 2025. This supports end users, like private developers, who can refer to the specifications for material compliance requirements, ensuring that construction projects are completed to a high standard and protect public safety. In October 2025, a specification for Dredged Material (DM) and Dredged Material Blends (DMB) was officially approved for inclusion in Maryland's Standard and Supplemental Specifications for Construction and Materials. This marks a key milestone in MPA's innovative reuse implementation goals.