

Maryland Port Administration (MPA) Innovative Reuse (IR) 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.

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.

How is dredged material categorized for innovative reuse, and how are test results used?

After dredged material is placed and before acceptance for use in an innovative reuse project, it is tested again following the [MDE Innovative Reuse and Beneficial Use of Dredged Material Guidance Document](#) to determine which of the four categories it falls under. This categorization determines the type of project it can be used for. Sediment from MPA dredged material placement sites is nearly always categorized as 1, 2, or 3. It is possible to blend or amend dredged material to affect its categorization. For example, based on sampling results, the innovative reuse material from the Cox Creek DMCF and directly from the Baltimore Harbor area generally falls within the MDE category 2, making it suitable for use in commercial and industrial settings. If desired, the category 2 material can be processed by blending or amendment with other materials to meet category 1, recreational, standards.

Maryland Department of the Environment established 4 categories for management of engineered fill, including dredged material, for Innovative Reuse and Beneficial Use:

CATEGORY	1	2	3	4
TYPE	Residential, Unrestricted	Non-Residential, Restricted Use	Restricted Use, Cap Required	Ineligible for Reuse
ALLOWABLE USE	May be used as soil or fill at any offsite location	May be used at non-residential and non-recreational sites with appropriate land use controls	Must be placed beneath an engineered cap	Must remain at the site and capped, or properly disposed of at a permitted hazardous waste disposal facility
ACCEPTED AT MPA'S DMCFs	Yes	Yes	Yes	No

Innovative Reuse (IR) Overview

What is innovative reuse?

Innovative reuse (IR) is defined as the use of dredged material in developing or manufacturing commercial, industrial, horticultural, agricultural, or other products.

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.

What can dredged material be used for?

Examples of innovative reuse include capping landfills, raising site elevations, and creating building and construction materials, including lightweight aggregate, bricks, and supplementary cementitious materials. Dredged material can be innovatively reused on its own in place of a commercial product or blended, amended, and incorporated into a manufactured product. As new projects are proposed, MDE will review and approve specific material end uses on a case-by-case basis.

Are other ports using their dredged material for IR?

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. IR uses include sub-base for basements of industrial buildings, roadway construction, concrete aggregate, roadside projects, earthen and noise barrier mounds, replacement of raw material, manufactured soil, soil amendment fertilizer, fuel concrete, and commercial products.

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.

Where does the IR material used by MPA partners come from?

IR material will come from the Cox Creek DMCF. The Cox Creek Sediment Technology and Reuse (STAR) facility will process and dry the material in preparation for reuse.

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, volume to be reused, and prevailing costs associated with implementation. However, reusing dredged material reclaims valuable capacity (space) within the dredged material facilities, which does carry economic value for the State. IR recycles a resource, ultimately providing life cycle cost savings compared to finding, acquiring, permitting, designing, and constructing additional DMCFs.

How can IR be scaled up?

The Cox Creek Sediment Technology and Reuse (STAR) Facility, adjacent to the Cox Creek DMCF, will be instrumental in scaling up IR because it will provide space for dredged material processing after it is reclaimed from the DMCF. To date, demonstration projects and research studies have validated the technical viability of IR approaches and laid the groundwork for investment in industrial-scale infrastructure. Most notably, the Cox Creek STAR Facility will serve as a dedicated processing site for dredged material and set the stage for future large-scale IR and BU operations.

Where can I find products made from dredged material?

Dredged material products developed to date serve as proof of concepts and prototypes, and have not been officially released to the market. However, efforts are underway to introduce commercial-scale products derived from dredged material to the wider market.

What is the Innovative Reuse Committee (IRC)?

The Dredged Material Management Program [Innovative Reuse Committee \(IRC\)](https://maryland-dmmp.com/committees/irc/) was created in February 2006 to provide advice on developing a strategy for recycling and reusing dredged material from the Baltimore Harbor. Members of this committee represent MPA, private marine terminals, County, City, and Local governmental agencies, developers, MDE, DNR, environmental nonprofit organizations, USACE, US EPA, maritime partnerships, and community groups. This committee meets quarterly to review research and development updates, consider strategy and guidance tool development, advise on policy recommendations, and develop educational materials. Learn more here: <https://maryland-dmmp.com/committees/irc/>.

What interactions does the IRC have with MDE?

MDE is a member of the IRC and discusses potential uses of dredged material from a regulatory standpoint. The ultimate use of dredged material must be in accordance with the [MDE Guidance Document](#).

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

- Please visit the Maryland Dredged Material Management Program (DMMP) website Innovative Reuse page (<https://maryland-dmmp.com/innovative-solutions/innovative-reuse/>) for information about the MPA's IR program.
- Please visit the MPA's more technical IRBU platform at https://gis.anchorqea.com/MDOTMPA_IRBU/ for comprehensive resources related to the IR of Baltimore Harbor dredged material, including background information and a form to contact MPA or request material.
- Information about the IRC can be found on the IRC information page on the DMMP website at <https://maryland-dmmp.com/committees/irc/>.

Obtaining and Using IR Dredged Material

Can dredged material be requested for reuse?

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?

IR 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 IR.

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 Innovative Reuse 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 [MDE Fill Material and Soil Management](#) page, the MDE Confirmation of Suitability video, and [MDE's website](#).

Are long-term site monitoring requirements associated with the reuse 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](#).

Who are the points of contact for environmentally safe, innovative reuse?

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?

SHA in partnership with MPA, drafted a material specification for the inclusion of dredged material in their standard specifications for construction and materials. This supports end users, like private developers, who can refer to the specifications for material compliance requirements, ensuring construction projects are completed to a high standard and protect public safety. In 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 IR implementation goals.