

**DRAFT FINAL**  
**SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM**  
**INNOVATIVE REUSE COMMITTEE MEETING**

**May 28, 2019, 5:30 PM**  
**2200 Broening Highway**  
**Baltimore, Maryland 21224**

***Attendees:***

*Innovative Reuse Committee (IRC) Members:*

*Anne Arundel County Department of Public Works (DPW):* Chris Phipps

*Baltimore County Department of Environmental Protection and Sustainability:* David Riter

*Chesapeake Bay Foundation:* Doug Myers

*Northeast Maryland Waste Disposal Authority (NMWDA):* Andrew Kays

*Stancills, Inc:* Chris Siciliano

*IRC Support Staff and Observers:*

*Facilitator:* Steve Pattison

*Earthcare, LLC:* Peter Thomas

*EcoLogix Group:* Robert Pace, Bob Summers

*Maryland Department of Natural Resources (DNR):* Jackie Specht

*Maryland Department of Transportation (MDOT):* Eddie Lukemire

*Maryland Department of Transportation Maryland Port Administration (MDOT MPA):* Dave Blazer, Kristen Fidler, Kristen Keene, Holly Miller, Amanda Peñafiel, Gannon Price

*Maryland Environmental Service (MES):* Dallas Henson, Benjamin Langer

*Northgate Environmental Management (NGEM):* Steve Bedosky, Deni Chambers

*Pennoni Associates:* Steve Donahue

*Terracon:* Nancy Straub

*University of Maryland Center of Environmental Science (UMCES):* Elizabeth Price, Mario Tamburri

**Action Items:**

1. Mr. Pattison will develop revised language for the February 26, 2019 IRC meeting summary concerning Mr. Myers statement regarding the soluble salt content within the Chesapeake Bay and the health of Chesapeake Bay Foundation's (CBF) oyster reef located near the Key Bridge. The revised language will be sent to Mr. Myers to review and, once accepted, will be incorporated into the February IRC summary.

**Welcome & Introductions**

**Steve Pattison, Facilitator**

Mr. Pattison welcomed the meeting attendees and the attendees introduced themselves.

Mr. Pattison requested comments on the February 26, 2019 Innovative Reuse Committee (IRC) meeting summary. Mr. Kays requested that the statement concerning the soluble salt content within the Chesapeake Bay and the health of the Chesapeake Bay Foundation's (CBF) oyster reef located near the Key Bridge be revised to clarify the discussion. Mr. Pattison will develop revised language for Mr. Myers to review and, once accepted, the revised language will be incorporated into the February IRC summary. The Committee did not raise any additional comments and accepted the February summary as final once updates have been incorporated.

## **Water Resources Development Act (WRDA) 2018 Section 1122 – Beneficial Use Pilot Program**

**Steve Pattison, Facilitator**

On behalf of Mr. Kevin Brennan, Mr. Pattison provided updates regarding the 2016 Water Resources Development Act (WRDA), Section (§) 1122, Beneficial Use of Dredged Material Pilot Program. WRDA 2016 requires the United States Army Corps of Engineers (USACE) to establish a program to conduct 10 pilot projects throughout the United States for the beneficial use of dredged material. Mr. Pattison stated that the USACE announced the 10 selected pilot projects in December 2018. Currently, the pilot projects are awaiting funding awards. The three proposals submitted by the USACE North Atlantic Baltimore District were not selected, one of which was the Fleming Park restoration project at Turner Station.

Mr. Pattison reminded the Committee that WRDA 2018 requires the USACE to select 20 pilot projects. The date for WRDA 2018 pilot project solicitation and project parameters/criteria has not been made available at this time.

## **Innovative and Beneficial Reuse Progress Report**

**Kristen Keene, MDOT MPA**

Ms. Keene provided updates regarding Maryland Department of Transportation Maryland Port Administration's (MDOT MPA) innovative reuse program including policy initiatives that MDOT MPA is contributing to and how those initiatives may impact dredged material reuse.

## Sustainable Materials Management Maryland (SM<sup>3</sup>)

Ms. Keene reminded the Committee of Governor Larry Hogan's June 2017 Waste Reduction and Resource Recovery Executive Order (EO) 01.01.2017.13, which recognizes dredged material as a resource with vast opportunities for reuse, calls on state agencies to be leaders in the reuse of dredged material where economically reasonable to do so, and prompted the creation of the Sustainable Materials Management Maryland (SM<sup>3</sup>) workgroup. SM<sup>3</sup> is a private sector-led and supported coalition of businesses from multiple sectors who are committed to working collaboratively with Maryland Department of the Environment (MDE) and other state agencies and public-sector leaders across Maryland to meet the goals outlined in EO 01.01.2017.13. The SM<sup>3</sup> workgroup contains a diverse set of stakeholders and has representation from senior-level leadership at state agencies. The mission of SM<sup>3</sup> is to design and implement materials management initiatives and projects for Maryland that will foster new materials management businesses in Maryland, conserve natural resources, meet climate change goals for 2030 and beyond, and embrace new and more effective measures of success.

Ms. Keene presented the Draft 2019 SM<sup>3</sup> Strategic Plan to the Committee. One of the SM<sup>3</sup> workgroup goals is to establish Maryland's Waste Reduction and Resource Recovery (MWR<sup>3</sup>) Innovation Center(s) that could serve one or multiple municipalities to dually repurpose waste streams and return resources to the market. The five state agencies listed in EO 01.01.2017.03 include MDE, Maryland Department of Agriculture (MDA), MDOT, Maryland Department of Energy, and Maryland Department of Commerce. As MDOT MPA falls under MDOT, dredged material will play a major role in the strategic plan. MDOT MPA's success with the innovative reuse program provides an example of how waste streams can be repurposed and returned to the region as a valuable resource.

The following are a list of key accomplishments from the December 14, 2018 and April 18, 2019 SM<sup>3</sup> workgroup meetings: 1) Introducing dredged material into the conversation in the context of waste stream recovery efforts; 2) Allowing SM<sup>3</sup> participants to recognize dredged material as one component of the larger solution to improve sustainable materials management in Maryland; 3) Investigating and performing a landscape assessment of regulatory framework in Maryland to review policies, specifications, and definitions

to identify areas or language where a revision or update could help facilitate SM<sup>3</sup> efforts; and 4) Generating significant interest in dredged material blending demonstration projects in collaboration with MDOT MPA. The collaborative effort between MDOT MPA, MDE, MDOT Office of the Environment, and MDOT State Highway Administration (MDOT SHA) to update the MDOT SHA Topsoil Specification to remove “dredge spoils” from the Harmful Materials Provision is a great example of a policy update that will aid in more sustainable reuse of materials.

#### HB 171 Organics Study Workgroup

Ms. Keene reminded the Committee of the House Bill (HB) 171 – Yard Waste, Food Residuals, and other Organic Materials Diversion and Infrastructure Study. The bill requires MDE, in consultation with other entities, to study and make recommendations regarding specified matters that relate to the diversion of yard waste, food residuals, and other organic materials from disposal facilities and the status of infrastructure in Maryland. The workgroup has completed the draft report that includes a series of legislative, regulatory, and programmatic recommendations. The final report will include a recommendation regarding the research and development of end use options for products that are created as a result of organics waste diversion and recycling efforts; dredged material will be included as a potential feedstock for blending operations. The report is expected to be complete July 1, 2019 and will be submitted to Governor Hogan and the Maryland General Assembly. The recommendation language regarding dredged material will support the notion that dredged material has value and will enhance the innovative reuse program, which can aid in the identification of new end uses for dredged material.

#### Innovative Reuse Program

Ms. Keene stated that the SM<sup>3</sup> and HB 171 workgroup meetings have generated interest in working with MDOT MPA for demonstration project opportunities. The workgroups heavily discussed that further research and development is needed to better understand and identify end use options for dredged material as well as other waste streams. This directly corresponds with MDOT MPA's Revised Innovative Reuse Strategy Action Item 7 which states MDOT MPA will “investigate opportunities to foster research and innovation.” Both the SM<sup>3</sup> and the HB 171 workgroup's robust private sector representation has allowed MDOT MPA to form relationships and identify opportunities for collaboration. The SM<sup>3</sup> workgroup is an example of how to generate synergy among the different state agencies as opposed to solely focusing on their individual sectors.

### **Maryland Department of Natural Resources (DNR) Beneficial Use of Dredged Material Guidance**

**Jackie Specht, DNR**

#### DNR and NOAA Coastal Management Fellowship

Ms. Specht introduced herself as a National Oceanic and Atmospheric Administration (NOAA) Coastal Management Fellow with the Maryland Department of Natural Resources (DNR) Chesapeake and Coastal Service (CCS). CCS houses the restoration, coastal planning, and waterways/dredging groups. Ms. Specht's role is to enhance coordination between these groups regarding the beneficial use of dredged material, which is inherently a multidisciplinary issue. Ms. Specht stated that her fellowship with DNR will be ending in August 2019, however, DNR will be continuing to proactively identify beneficial use opportunities and prioritize beneficial use placement based on resiliency needs.

#### Beneficial Use

The four beneficial uses practiced or being researched by DNR include living shorelines and marsh creation, beach nourishment, thin-layer placement (TLP), and island restoration. DNR's four stage plan for the beneficial use of dredged material includes the following:

1) Understand: DNR is participating in a National Estuarine Research Reserve Science Collaborative project that aims to understand the impacts of TLP depth and quality on marsh recovery. To further inform TLP practices, DNR began developing a Marsh Elevation Enhancement Planning Considerations document that will provide an implementation checklist and lessons-learned from TLP projects across the country. DNR is also working on finalizing a regulatory policy regarding dredged material placement on state lands and a complementary process document that clearly identify the necessary steps, from the dredging, restoration, and reviewing perspectives, to implement successful and environmentally friendly beneficial use projects.

2) Identify: DNR is developing the Beneficial Use – Identifying Locations for Dredge (BUILD) online mapping tool. The BUILD tool will be populated with dredging and restoration projects to assist planners with spatial identification of potential beneficial use opportunities. Along with spatial data, the BUILD tool will incorporate temporal information, physical characteristics of the dredged material, and associated MDE Wetlands and Waterways permits. BUILD is expected to be incorporated into the Maryland Coastal Atlas in June 2019. DNR also partnered with Mahan Rykiel Associates (MRA) to develop a beneficial use site suitability model for the Lower Wicomico and Kent Narrows areas.

3) Restore: DNR provided funding for two beneficial use projects through the Community Resilience Grant Program. This program funds projects that use natural and nature-based features to enhance community resilience to climate change impacts. The first is the Hurst Creek Shoreline project in Dorchester County, currently in the permitting phase, which involves restoring a barrier shoreline using dredged material from the adjacent channel. The second is the Selsey Road Resiliency project in Worcester County, currently in the design phase, which involves reestablishing a beach and marsh habitat using dredged material from the Ocean City area.

This year, DNR received 20 project proposals, three of which proposed the beneficial use of dredged material. This is significant since in the previous two years of the grant program, DNR had only received two project proposals for the beneficial use of dredged material; Hurst Creek Shoreline and Selsey Road Resiliency.

4) Communicate: To further communication initiatives, DNR developed a webpage and story maps that include information for the public about DNR's current beneficial use of dredged material demonstration projects and the BUILD tool.

#### Regional Sediment Management Plan

Ms. Specht informed the Committee of DNR's new initiative to develop a Regional Sediment Management (RSM) Plan. DNR is currently seeking support to develop the RSM Plan through the USACE's Continuing Authorities Program (CAP) 204e: State and RSM Plans. CAP 204e states that the USACE "may cooperate with any State or group of States in the preparation of a comprehensive State or regional sediment management plan within the boundaries of the State or among States". Part I of DNR's RSM Plan will involve the collection and synthesis of information such as depth and sediment surveys, sediment budget models, elevation analysis, and geographical scope identification. Local government and interagency coordination will be integral in gathering this information. Part II of the RSM plan will involve the identification of stream restoration projects, beneficial use projects, and community resilience projects. Mr. Pattison asked how DNR will classify the region that this plan will incorporate. Ms. Specht responded that the region will generally cover the local waterways supported through DNR's Waterway Improvement Program and stated that the region will be further outlined after more information is gathered.

### Potential Lower Wicomico River TLP Project

DNR is assisting the USACE with identifying a potential TLP project using dredged material from the upcoming Lower Wicomico River dredging project. DNR is coordinating with the Audubon Society and the US Fish and Wildlife Service to locate potential wetlands in that area that TLP could restore.

Mr. Thomas inquired about the dredged material composition in the Lower Wicomico area. Ms. Specht responded that the Lower Wicomico material is very fine-grained. In regard to the new policy being developed, Mr. Myers asked if DNR has discussed the issue of potential projects not being feasible due to project designs attempting to prevent the introduction of *Phragmites*. Ms. Specht responded that *Phragmites* introduction is considered in project planning but has not prevented a project thus far. Mr. Phipps asked if funding provided through the Community Resilience Grant Program would cover dredging costs. Ms. Specht responded that grant funding is not intended for dredging costs, especially if only a portion of the channel being dredged will be used for the resiliency project. Mr. Phipps asked how the USACE provides assistance with the development of the RSM Plan. Ms. Specht responded that the USACE would provide in-kind services such as developing the sediment budget models.

### **Workshop on the Use of Dredged Material to Protect Low-Lying Areas of the Chesapeake Bay**

**Mario Tamburri, UMCES**

**Robert Pace, EcoLogix**

Mr. Tamburri and Mr. Pace discussed the Beneficial Use of Dredged Material to Protect Low-Lying Areas of the Chesapeake Bay workshop that was held on January 23 and 24, 2019. The workshop was a collaboration between the University of Maryland Center for Environmental Science (UMCES) and MDOT MPA.

Mr. Tamburri outlined the goals of the workshop which were: identify the problems associated with inundation, sea-level rise, and areas of vulnerability in the Chesapeake Bay; understand the current dredging activities and programs conducted in the Chesapeake Bay; understand the current state of technology and potential applications of dredged material to protect low-lying areas; identify the range of impacts, constraints, and opportunities for restoration projects; and build a consensus with experts regarding a strategy moving forward for future targeted research, development, and applied projects. The steering committee for this workshop was comprised of members from MDOT MPA, UMCES, EcoLogix Group, and Delft University of Technology and was responsible for the development of the goals, agenda, and list of potential participants to attend the workshop. Over 40 participants from local, state, and federal agencies, academia, non-governmental organizations (NGOs), and the private sector attended the workshop. Mr. Pace added that the participants represented seven research institutions, three USACE divisions, four state agencies, multiple consultants, Baltimore City, and three foundations/NGOs.

Mr. Pace stated that the diversity of the participants led to the development of major and recurrent themes from project, research, and planning perspectives. Mr. Pace summarized the themes that were developed through the workshop: 1) Dredged material plays an important role in addressing eroding shorelines and coastal wetlands; however, it is one of many tools to consider for a broad sediment management strategy. 2) Solutions should be sustainable, resilient, and adaptive to not only solve low-lying area issues but to garner support and funding for the projects. 3) An increased effort is needed to understand sediment transport and to conserve sediment as a resource. 4) When developing solutions, an emphasis should be placed on RSM. 5) While large-scale solutions are needed to adequately address problems, local small-scale projects will also be needed to solve present day problems. 6) Collecting data and lessons learned from local small-scale projects will be valuable in the development of large-scale projects. 7) Unconstrained planning approaches

will be needed to develop projects that can solve future problems. 8) Sediment transport transcends jurisdictional boundaries, therefore other states in the Chesapeake Bay should be included when developing a RSM strategy. 9) The last and most critical theme discussed was the importance of partnerships.

Mr. Pace discussed the major recommendations developed through the workshop. The first recommendation is to form a standing workgroup to follow-up and implement the other three recommendations. The second recommendation is to develop a web-based public information sharing platform to promote collaboration and engagement regarding the use of dredged material to protect low-lying areas of the Chesapeake Bay. Mr. Tamburri stated that UMCES could develop such a site once the working group has been created. The third recommendation is to identify and implement near-term pilot projects using existing tools to garner project support/funding. The fourth and final recommendation is to develop a large-scale RSM strategy.

Mr. Pace stated that the initial draft workshop report, which includes the workshop agenda, list of participants, and recommendations, has been reviewed by the steering committee and is currently out for review by the workshop participants until May 31, 2019. Mr. Pace stated that the final workshop report will be available to the public through the Maritime Environmental Resource Center website, <http://www.maritime-enviro.org> on June 14, 2019.

Mr. Tamburri asked the Committee members who were present at the workshop to provide any comments or edits on the draft report. Ms. Chambers asked if the review period could be extended as a conference regarding a similar topic is being held the week of June 3, 2019. Mr. Tamburri responded that the deadline could be extended by one week. Mr. Pattison asked if the issue of public perception pertaining to the use of dredged material was discussed. Mr. Pace responded that there was some discussion regarding the visibility of dredged material placement activity to the public, however, the majority of the workshop's focus was on dredged material as a resource and engaging elected officials to garner support for these projects. Mr. Tamburri added that the implementation of small-scale projects will help with obtaining public awareness. Mr. Blazer asked for recommendations regarding the Philadelphia, Baltimore, and Norfolk USACE Districts adopting a more regional approach for implementing projects. Mr. Pace responded that from a dredging perspective, the three districts coordinate with one another, where possible, when issuing dredging contracts, primarily for cost-efficiency purposes. The USACE has presented multiple times at the Association of American Port Authorities regarding how to regionalize dredging operations to achieve economic efficiencies. The USACE CAP 204e shows that the USACE is open to discussions regarding a regional approach spanning multiple districts. Mr. Tamburri stated that RSM needs to be an interagency collaboration, such as the USACE, NOAA, and the Environmental Protection Agency (EPA).

### **Upcoming Meetings**

Mr. Pattison informed the Committee that the next IRC meeting will be held on August 27, 2019.

*Meeting adjourned at 7:00pm*