

Senate Bill 168 – SUPPORT

**Senate Bill 168 – Environment
Crossover to House Committee on the Environment and Transportation
“Confined Aquatic Disposal Cells - Construction - Moratorium”**

Dear Chair, Vice Chair, and Committee Members,

I appreciate this opportunity to provide testimony for SB 168. My name is John Garofolo. I am a recently retired senior federal test and measurement scientist, an Anne Arundel Watershed Steward Academy (WSA) - Master Watershed Steward, a citizen environmentalist, a boater, and I have previously been on the board of directors of my community association. I have lived in the community of Stoney Beach for 20 years – a 62-acre peninsula community in Curtis Bay in Northern Anne Arundel County with 1.2 miles of shoreline bordering the Patapsco River, Stoney Creek, and Cox Creek. I have been engaging the Maryland Port Administration (MPA) through their Cox Creek Citizens Oversight Committee, their Citizens Advisory Committee, and their Innovative Reuse Committee for several years since they began constructing the enormous 237-acre diked dredge containment facility that is only 2 miles upriver from our community called the “Cox Creek Dredge Management Containment Facility (CC-DMCF).”

The Port of Baltimore is essential to Maryland and US commerce, and I greatly support its mission. Because of constant silt build up from erosion, channel, anchorage, and berth dredging are critical to keeping the Port open and safe for ship traffic. However, the safety of the disposal of the removed dredge material is crucial to the health and safety of the Patapsco and its waterways, the Chesapeake Bay, the tidal ecosystem, and the citizens and especially families with children that live on, use, and play in these waterways. **This is especially important because much of the dredge material removed from the Baltimore Harbor and Patapsco shipping channel is contaminated with highly toxic forever chemicals from past industrial dumping and continued runoff. And many of these chemicals are carcinogenic.** Harbor dredge material frequently contains heavy metals, petroleum, PCBs, PFAs, and other toxic “forever” chemicals. While levels recently generally don’t reach HAZMAT status, MPA must take special precautions in testing, containing, and dewatering it as required by law and regulation because much of it remains contaminated. The tidal Patapsco is also environmentally sequestered by law from the rest of the Chesapeake for dredge management because of known contamination of the riverbed near current and legacy industrial sites. As such, MPA may currently only dispose of dredge material from the Patapsco in land-based diked containment facilities adjoining the Patapsco.

Due to the projected expansion of Baltimore Harbor/Patapsco shipping and berthing channels and ongoing maintenance requirements, MPA has predicted a shortage of places to “contain” contaminated dredge material in the future beyond their 20-year rolling plan. As a result, in 2010, MPA began to explore an aquatic alternative to land-based facilities for dredge material containment called Confined Aquatic Disposal (CAD). MPA created an initial CAD pilot in a ship berth adjoining their diked containment facility in Brooklyn called “Masonville Cove” in 2016. The pilot was in calm protected water in a ship berth in an already-contaminated industrial area and not reflective of the behavior or impacts of a CAD project in the open turbulent waters of the outer Patapsco near the Bay. MPA created their

“Innovative Reuse & Beneficial Use Program (IRBU)” program to promote both CAD and R&D in the potential reuse of dredge material. MPA’s 2019 DMMP annual report¹ indicated that they had initiated a process to identify potential sites for a pilot of an operationally-sized CAD installation in the Patapsco (MPA refers to the entire tidal Patapsco as “the Baltimore Harbor” - including outer Patapsco waters adjoining the Chesapeake and residential Anne Arundel County and Baltimore County shorelines.) MPA performed an initial internal assessment of CAD within their “Harbor Team” in 2011. MPA has clearly been working on these plans for years but had not communicated their plans with waterway communities or legislators for these communities on the tidal Patapsco beyond the Key Bridge. **MPA was negligent in sufficiently communicating their plans to use CAD to the citizens of North Anne Arundel County and to our legislative representatives. Moreover, they spent enormous amounts of taxpayer funds to support their CAD planning and research without public discourse.**

According to MPA, their planned implementation of CAD involves digging a hole in the riverbed (cell) up to 90 feet deep and up to 20 acres in size and removing clean sand from the cell to be used for other beneficial purposes and later dumping (contaminated) dredge in its place but not completely filling the cell to the top.² MPA does not plan to cap the deposited dredge because they believe that the placed sediment won’t drift and isn’t toxic enough to truly contain. MPA also doesn’t plan to use a silt curtain during its construction to limit dispersion of sediment and turbidity. Enormous amounts of healthy riverbed would be destroyed in CAD construction including all aquatic and riverbed life in and near the CAD cell. It’s unclear how much of the contaminants and turbidity in the dredge would be released into the river during filling or over time and how long it would take the disturbed ecosystem to recover. MPA specifically chose a location less than one mile off Stoney Creek/Rock Creek because it was largely uncontaminated, had appropriate sandy material to be mined, and could support a variety of MPA dredge reuse projects and MPA IRBU program company partners. While MPA and MDE seem to have no real definition for “confined” as it relates to formal containment of dredge material, **CAD would clearly not contain and control the contaminants the way that diked land-based dredge facilities do, and it is unclear how this would affect public health in nearby waterfront communities or the delicate ecosystems of one of the less-contaminated areas of the Patapsco as well as its nearby tidal tributaries.**

In my role of Watershed Steward, I began engaging MPA through their Cox Creek Citizens Oversight Committee (CCCOC) meeting in the Fall of 2022 to ask if they could provide clean (“MDE Category 1”³ – suitable for residential use) dredge material for a shoreline restoration project in my community. MPA was able to set aside dredge material removed from Cox Creek next to our community for the project. My community is now about to benefit from the MPA IRBU beneficial reuse program⁴ for our shoreline and MPA is highlighting it as a success. **I strongly support this form of beneficial reuse which doesn’t create environmental harm.** MPA announced in their Spring 2023 CCCOC meeting that they planned to

¹ <https://mpa.maryland.gov/greenport/Documents/dmmpannualreview2018.pdf>

² <https://maryland-dmmp.com/innovative-solutions/confined-aquatic-disposal/>

³ <https://mde.maryland.gov/programs/marylander/pages/dredging.aspx> and https://mde.maryland.gov/programs/marylander/Documents/Dredging/FINAL_IBR_GUIDANCE_12.05.2019_MDE.pdf (and Appendix 3 - Screening Criteria)

⁴ https://mpa.maryland.gov/greenport/documents/MDOT_MPA_IBR_FACT_SHEET%202021%20FINAL.pdf

create an up to 20-acre outer Patapsco CAD pilot as part of a 220-acre potential site plan and this site would contain contaminated “MDE Category 2” dredge material (“Non-Residential Restricted Use Soil and Fill Material”) and potentially even some “MDE Category 3” material (“Restricted Use Soil and Fill Material, Cap Required”). Note that the referenced MDE dredge material categorization and use guidance document does not address the re-use of dredge material in submerged applications – only in primarily land-based use and it is silent on CAD. **The potentially enormous MPA CAD “pilot” site is likely planned for the Southern side of the outer Patapsco River less than 1 mile off Stoney Creek and Rock Creek and very close to my community of Stoney Beach and nearby Riviera Beach and other communities on those waterways. Potential likely extension of the site to its full size would bring it close to Fort Smallwood. It could potentially be as large as 166 football fields at depths of up to 90-feet deep under the river bed!**

I was so alarmed by this announcement, that I organized a meeting with MPA to meet with area citizens and our state and county legislators on June 1, 2023 and asked MPA to speak about their dredge management program, IRBU program, and CAD project and to take an hour of questions. **The meeting had over 150 participants including citizens from many Anne Arundel Patapsco waterway communities as well as all of our legislative representatives.** In that meeting, MPA did a poor job of explaining their plans and research and responding to questions from the citizens. Citizens asked many important technical questions regarding risk assessment, science, engineering, health and safety, environmental concerns, and for technical documentation which MPA could not adequately answer. **Both our citizens and our legislators expressed great concern about the soundness, safety, and transparency of the project. The citizens at the meeting also expressed how important the outer Patapsco and its Anne Arundel residential waterways (including Cox Creek, Stoney Creek, Nabbs Creek, Rock Creek, and Bodkin Creek spanning Pasadena and Curtis Bay and tens of miles of shoreline) are to the way of life for families living on and engaging with these waterways.** On any one nice summer day, you might see dozens of families swimming, boating, skiing, jet skiing, paddleboarding, fishing, and crabbing in the cove at the mouth of Stoney Creek and out into the Patapsco. Citizens in my community also fish almost all year and crab from our boardwalk – directly in line with the planned CAD project.

Our area state legislators, Senator Simonaire and Delegates Chisholm, Munoz, and Kipke quickly met with the MPA shortly after the meeting and published a press release stating that MPA agreed to pause the CAD project while our legislators worked to create legislation to stand up a statewide task force to investigate the use and location of CAD projects in Maryland. MPA held its own long-overdue citizen outreach meeting and open house several weeks later in July, 2023 in response to the June meeting. However, MPA provided essentially no new information and only took questions at tables outside of the formal part of the meeting. **MPA asserted in the meeting (and every meeting since) that they were only focused on pausing their CAD project to “improve their education and outreach”, but stated nothing regarding improving their science, transparency, and substantive citizen engagement until April, 2024.** I asked MPA at that meeting in 2023 if they would hold a technical briefing for scientists and engineers and interested citizens living near the planned site and they agreed, but didn’t follow through until June, 2024. This is not a matter of marketing. MPA has been largely tone deaf to citizen concerns. This is a matter of open science, peer and citizen review, and transparency and accountability.

In 2024 SB 353 and companion bill HB 886 were proposed by our area legislators to create an independent task force to study MPA's CAD program, plans, and science. That bill passed in the Senate and would have ensured critically important independent oversight of MPA's longstanding work on CAD and made recommendations to the General Assembly about the future of the program. Unfortunately, both bills failed to pass through the House Environment and Transportation Committee and were never permitted to have a floor vote – even with very significant citizen engagement. In response to the failed bill, 10 dedicated citizen scientists, environmentalists, and conservationists in Anne Arundel County created a volunteer citizen technical engagement team to engage with MPA on the technical background and risks of their CAD program. At the same time, MPA announced that it would create its own program review of CAD under its Bay Enhancement Working Group in a special CAD Subcommittee.

MPA then carefully selected the BEWG CAD subcommittee membership to specifically exclude all members of the citizen technical team – even though we were the most well-informed people regarding CAD beyond MPA and its contractors in the state – and several volunteered, including myself. MPA began its study in September, 2024 and it is continuing over the next several months.⁵ Unfortunately, with a few exceptions, most of the engagement in the study has been from the volunteer citizen technical team and other engaged citizens in public monthly MPA meetings with the subcommittee.

After having sat through over 100 hours of meetings with MPA, read every MPA document related to dredge management and CAD, met with MPA and its CAD contractors in many of its public committee meetings and one private meeting with our group, heard many technical briefings from MPA and its contractors, and asked dozens of questions, our citizen team concluded that MPA's research was fraught with unassessed risks with no real mitigation plans and we questioned its economic viability given the amount of material that would need to be placed in containment facilities removed from CAD sites compared to the amount of material that could be stored in the CAD sites. We questioned the environmental and economic acceptability of river mining in the Chesapeake. We questioned potentially significant impacts of CAD to water quality, benthic aquatic life, downstream aquatic and avian life higher in the food chain, and to nearby submerged aquatic vegetation and shorelines. Moreover, we questioned the potential risk to human health from exposure to waterways that had been disturbed in the creation and filling of CAD sites and sediment drift due to the sometimes extreme and complex hydrodynamics of the outer Patapsco. Finally, we questioned the statutes that allow MPA to even lead and engage in such work.

We submitted our own assessment of our concerns regarding MPA's CAD work in an 86-slide presentation which MPA permitted us to present at their BEWG CAD subcommittee in October, 2024. We also conducted a citizen survey regarding CAD and included the results in our presentation. With nearly 300 responses from many Patapsco waterway residential communities represented, the survey showed that over 94% of the respondents unquestionably opposed CAD in the Patapsco. Our citizen

⁵ <https://maryland-dmmp.com/committees/bay-enhancement-working-group-cad-subcommittee-2/>

team identified the following categories of risk and presented significant concerns and questions related to them:

1. Overarching and Programmatic risk
2. Environmental risk
3. Ecological risk
4. Human health risk
5. Structural risk
6. Measurement risk
7. Economic risk
8. Sustainability Risk
9. Stewardship and Trust risk

Our volunteer technical group submitted our concerns, questions, and comments in our presentations along with concerns, questions, and comments from citizen responses to our survey to MPA that resulted in 121 unique points of concern as determined by MPA which were reviewed in their January, 2025 BEWG CAD Subcommittee meeting. MPA has marked many highly relevant concerns as irrelevant or the responsibility of other agencies.

Moreover, we participated in all of the MPA BEWG CAD Subcommittee meetings from September, 2024 until present and our citizen group and committee members identified several specific risks according to the categories in the MPA CAD scoring matrix that required further consideration and/or research.

These include:

- Risk to the fragile Patapsco ecosystem and food chain.
- Risk of dredging contaminated sediment near residential waterways and creation of turbidity in the water to expose family in-water activities like swimming, boating, and watersports to contaminants and bacteria/algae overgrowth.
- Risk of river water and contaminant infiltration of the fresh ground water aquifer under the Patapsco that supplies wells in Pasadena and to the North Anne Arundel city water supply from deep dredging.
- Risk of contamination and turbidity to fishing and crabbing and ingestion of Patapsco caught seafood to public health.
- Risk of hypoxia (low oxygen) in the waterways created by turbidity and nutrients released in CAD dredging – especially in Rock Creek which has chronic hypoxia.
- Risk to benthic life (clams, oysters, worms) and submerged aquatic vegetation.
- Risk to waterfowl and prey birds that feed on fish in the Patapsco.
- Risk of impacts to waterway home values, businesses, and livelihoods.
- Risk of noise during 24/7 dredging operations less than a mile offshore.
- Other risks of likely site selection less than a mile off Stoney Creek and Rock Creek to nearby waterway residential communities.
- Cumulative overburden of nearby communities to many other existing nearby sources of pollution.

We also noted concerns about the economic utility of CAD since it would require great expense with multiple dredgings and additional potentially contaminated sediment material taken from the CAD

site that would have to be contained. Given what we understand about the geology of the area with both the sediment and sand being fine grained materials tending to cave in if disturbed, it is questionable to us that the state would be able to obtain enough clean usable sand for its beneficial use and innovative reuse program to outweigh the fiscal costs of the program. This is on top of the other costs related to the risks we've identified above. In all, the potential costs and risks far outweigh any benefit that CAD could provide.

Moreover, our volunteer citizen team is concerned that this project has proceeded for 14 years at great expense to the taxpayers without proper oversight or engagement with impacted communities. MPA has appeared to be tone deaf to evolving citizen perspectives regarding what is acceptable environmentally and they completely ignored the sociotechnical impacts of the program on nearby overburdened residential waterway communities. The one positive thing that has come out of our incredibly hard work is that MPA has improved its processes and publicly-available materials. It completely overhauled its website this past year in large part due to our concerns with its lack of information. And the BEWG CAD Subcommittee wouldn't exist if it weren't for our efforts. Unfortunately, MPA appears to remain biased in its assessment of its program and the subcommittee is steered by MPA contractors who have worked on the CAD program, who benefit from it, and who cannot have an independent perspective. The process has been clearly biased. This is why it's incredibly important for there to be true independent technical assessment of MPA activities and R&D beyond the existing committee structure which has little meaningful impact.

For purposes of dredge management, MPA and the state of Maryland seem to see the Patapsco River as environmentally and ecologically disengaged from the greater Chesapeake. The Patapsco River and its many tidal tributary waterways are an important part of the Chesapeake Bay and its overall health. And the Patapsco is the most at-risk part of the Chesapeake Bay environmentally because of the great harms caused by industrial waste and sewage spills from the last 150+ years. The Patapsco River continues to receive the worst health score (Poor - D-) for the Chesapeake as determined by independent analysis from the University of Maryland Center for Environmental Studies.⁶ **The Patapsco needs to have the most environmentally sensitive laws, regulation, and oversight - not the least.** And the residential areas of the outer Patapsco in Anne Arundel County have hundreds of waterfront communities whose families swim, fish, crab, boat, and do water sports in the river and its waterways. **The Patapsco waterways literally are the lifeblood of the communities in Northern Anne Arundel County. It's important for our future that these waterways are kept environmentally safe and that no further environmental damage is done to the Patapsco or its residential communities.**

Moreover, the Key Bridge collapse, cleanup, and rebuild and creation of Tradeport Atlantic is already creating huge additional burdens to the river that will decrease the amount of untouched river bed. As industry continues to encroach on the Patapsco River and health grades for the river continue to be poor, MPA should be making as light a footprint as possible on the river as possible. **Instead of continuing to destroy the river, MPA should be creating more living shorelines and protected reefs, submerged aquatic wetlands, and fish nurseries.** Risks aside, **I can't fathom how it's okay to destroy**

⁶ <https://www.umces.edu/news/chesapeake-bay-health-improves-to-c-for-the-first-time-in-over-20-years>

hundreds of acres of healthy riverbed in an already highly distressed Chesapeake tidal estuary near already environmentally-overburdened residential communities.

Our area in Zip Code 21226 has too long been the state's dumping ground and has been cited as one of the most polluted Zip Codes in the nation. Our community sits within just hundreds of feet of the Brandon Shores and Wagner coal and fossil fuel power generation stations which are now being kept activated because of the state's energy resiliency problems and the Cox Creek wastewater treatment plant, and just upstream from us is the enormous expanding MPA Cox Creek Dredge Material Containment facility, its future STAR facility with new polluters, a petroleum/asphalt processing plant, a chemical plant, multiple toxic material dumps, the horribly polluting Curtis Bay Energy medical incinerator which is the largest in the country, the CSX coal terminal, and even a radioactive Superfund site. And, we are only two and a half miles directly across the Patapsco from Sparrows Point in which cleanup operations from the pollution from Bethlehem Steel have been ongoing for years. And there are countless other highly contaminated legacy pollution sites within our Zip Code.

These sources of pollution impact nearby waterway communities in Pasadena and Glen Burnie and across the river in Dundalk, Sparrows Point, Edgemere, and North Point as well as highly overburdened waterway communities in Baltimore City. The tides, waves, winds, and currents know no bounds. **This CAD project is an environmental injustice to an already over-burdened waterway and over-burdened communities. It is of utmost importance that further environmental injustice to overburdened communities is not committed by the state in the name of cost, convenience, and hubris. Maryland Port Administration dredge management needs to be better balanced with environmental justice. MPA stewardship programs do not make up for environmental injustices that they create. Despite the state's regulatory view, our waterways ARE an important ecological part of the Chesapeake Bay and they're extremely important to our communities and to Chesapeake Bay restoration priorities and efforts.**

The 4-year moratorium on the creation of Confined Aquatic Disposal Cells in MD will ensure that the MD Port Administration conducts the necessary research and creates mitigation plans to address the risks and allows more time for citizen, legislator, and community engagement before CAD would begin to be deployed in the Patapsco in June, 2029.

I STRONGLY SUPPORT SB 168 and ask the Committee to give it a favorable report and move it to the House floor for a vote.

Sincerely,

John S. Garofolo

Stoney Beach, Curtis Bay, MD