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House Environment and Transportation Committee

Testimony in SUPPORT of House Bill 348

Natural Resources – Oyster Planting – Substrate Material

Wednesday, February 13, 2019 at 1:00 pm

The Delmarva Fisheries Association (DFA) urges a favorable report on House Bill 348, which will give priority to natural indigenous oyster shell as the preferred substrate in oyster restoration, propagation and replenishment projects throughout the Chesapeake Bay, and require an environmental impact statement by DNR and public hearing before the use of certain alternative substrate materials. HB 348 also gives a voice to the Oyster Advisory Commission and local Oyster Committees when considering the use of alternative materials as substrate.

Oyster spat need a clean hard surface on which to strike after spawning in order to grow.[1]

There is no dispute that Chesapeake Bay oyster **shell is the absolute best** surface upon which oyster larva can and will most successfully strike after spawning.[2]

We hear all the time about the lack of oyster shell for restoration work, and yet there is plenty of shell that could be harvested, especially in the upper Bay at Man O'War Shoal – it's just buried under sediment. If such shell was harvested, properly seeded and then distributed throughout the Bay and tributaries to natural oyster bars that have been cleaned, it will serve as a catalyst for the restoration of such natural oyster bars and enhance oyster propagation.

DNR records show that the natural oyster bars in the Maryland portion of the Bay that were planted with seeded shell harvested from other natural oyster bars in the upper Bay proved to be the most productive and healthy in the aftermath of Hurricane Agnes. Look at the success Virginia is having dredging up natural shell (using the same dredge that operated in the upper

[1] Chesapeake Bay Oyster Recovery: Native Oyster Restoration Master Plan (September 2012) by U.S. Army Corps of Engineers, in close partnership with the Maryland Department of Natural Resources and the Virginia Marine Resources Commission ("USACE Master Plan"), page 160.

[2] USACE Master Plan, page 160.

Bay for decades) and relocating the shell to where natural spat sets and recruitment are most likely to occur. A similarly successful seeded shell relocation program is again possible with natural shell harvested from Man O'War Shoal.

Artificial substrate is not the best way to restore oysters in the Bay. The scarcity of natural oyster shell for use in large-scale oyster restoration and propagation is a self-imposed shortage created at the behest of certain environmental non-governmental organizations. In turn, these organizations have obtained millions of taxpayer dollars to plant **genetically modified, sterile oysters** (a.k.a triploids) in areas where rubble waste and construction demolition debris have been or will be dumped, in the name of constructing three-dimensional oyster sanctuaries. DNR employees have observed that there is an abundance of indigenous oyster shell in areas declared sanctuaries that is now buried in sediments because there has been no cultivation activity. Natural oyster bars that are buried and smothered by sediments, if cultivated and then replenished with seeded shell harvested from the Man O'War Shoal, would jumpstart the restoration of natural oyster bars on which they were deposited. Such a program was successfully conducted by DNR in partnership with watermen for decades before it was discontinued under pressure from certain environmental special interest groups for bogus reasons.

Chesapeake Bay oyster shell is better than any of the other alternative; look at all the problems and high costs with what was used as "alternative substrate" in the Harris Creek, Little Choptank River and Tred Avon River oyster restoration projects. DFA opposes the importation and dumping of "stone" and rubble waste into the Bay to create hard bottom. There would be much less controversy, fewer unanswered questions and significantly reduced costs if indigenous natural shell had been used in those oyster restoration projects.

Per USACE metrics, the lowest cost substrate for constructing oyster bars is shell.[3]

No new pollution, sediments, pathogens or toxins are introduced into the Bay by using natural native shell.

The State of Maryland should stop sanctioning the importation and dumping of rubble waste in the Bay to create hard bottom.

The State of Maryland should stop sanctioning the importation of non-indigenous, untested (for toxins and pathogens) shell and other materials from Florida, New Jersey and other regions for dumping into the Bay, when according to USACE's own reports there is "an enormous amount of shell" in the Bay.[4]

Instead, Maryland should restore natural oyster bars with naturally seeded indigenous Chesapeake Bay shell harvested in an orderly fashion using environmentally conscious techniques from Man O'War Shoal.

[3] USACE Master Plan, pages 161, 174, 176.

[4] USACE Master Plan, page 160.

Maryland should prevent any further crushing of existing natural oyster bars with "alternative substrate" at exorbitant costs and return our collective efforts and resources to the indisputable fact that natural shell is the best substrate – as Mother Nature designed.

Under the foreign substrate program, DNR and other federal agencies have been purchasing different types of substrate that is not naturally found in the Bay. To date, millions of tons of granite and slurry from a Florida swamp quarry have been dumped in Harris Creek, Tred Avon and the Little Choptank River.

No pilot test was performed on the granite to determine whether wild oyster larva from the Bay would attach to it or whether hatchery larva would attach to it in the Bay. Much of the granite that was placed sunk into the floor of the Bay. The granite was dumped on historic oyster beds to raise the new beds above the floor of the Bay. A sediment plume formed in the water where the granite was dumped because the granite was not washed before being dumped and was coated with fines. In many cases, the granite has crushed and compacted the oysters and shell on which it is dumped. Creating elevated beds risks the side effect of reducing the energy of tidal flow and acting as a fence to trap and to hold plant debris that is washed into the Bay and decaying algae blooms that fall to the floor of the Bay. Again, as such plant matter and algae blooms decay, they are trapped and held by such elevated structures, instead of being washed down the Bay to the deep channels with tidal currents and storm surges, while the sulfide that is released during the anaerobic decay process kills marine life in the vicinity of such matter.

Tens of millions of dollars have been spent on the alternative substrate program. No pilot test was performed before making such expenditures to determine whether such programs create a structure on which oysters could spawn, mature and thrive. This program is simply another money pit. More disturbing, some of the Bay's best natural oyster habitat has been destroyed and no economic benefit will be derived from the expenditure. Finally, in the recently released Oyster Stock Assessment, peer reviewers analyzing the efficacy of the sanctuaries said the following, ***"Sanctuary and habitat plantings, and aquaculture operations should not be considered a part of the standing stock of the fishery, nor part of the reproductive capacity of the fishery. Doing so will overestimate the spawning potential, and the contributions of sanctuaries, habitat plantings and aquaculture are as yet unclear and likely vary greatly by source."***[5] In plain terms, the concrete castles supported by special interest groups do not have a demonstrable impact on the health of the Chesapeake Bay; they may in fact be detrimental (i.e. impact tidal movements, algal blooms, etc.) and further study is warranted on these materials.

For these reasons, DFA urges a FAVORABLE report on HB 348.

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[5] Rago, Paul, Hennen, Daniel and Mnroe, Daphne. "*Review of A Stock Assessment of Eastern Oyster, Crassotrea virginica, in Maryland Waters of Chesapeake Bay*" (Annapolis, August 2018), page 5.