

MDOT FY15 Oyster Comprehensive Report

Each year since 1997 the Maryland Department of Transportation (MDOT) has provided a grant to the Maryland Department of Natural Resources to be used solely for the purpose of oyster recovery within Maryland waters of the Chesapeake Bay. Since 2012, the grant value has been for two million dollars annually. The grant further stipulates that at least \$800,000 shall be spent on oyster recovery efforts involving licensed Maryland oystermen. As such, monies from the MDOT grant have been annually allocated among the counties for use in county oyster repletion projects such as the purchase and planting of spat on shell for public fishery bars. The following is a summary of work completed under MDOT grant funding for the 2015 fiscal year. The work plan focused on three major areas: Sanctuary Program, Demonstration Projects and Monitoring, and Public Fishery Program.

❖ Sanctuary Program

- In-Water Restoration
- Sanctuary Program Administration

❖ Demonstration Projects and Monitoring

❖ Public Fishery Program

- County Oyster Committees
- Oyster Fishery Management

This compressive report summarizes all activities conducted under this agreement in FY2015. Looking forward, DNR is committed to increasing the level of accountability and transparency when using MDOT funding. Currently the budget system does not break down cost into more specific categories; however, DNR is working towards reporting at a more detailed level in the future.

1. Sanctuary Program

1.1 In-Water Restoration

MDOT funds were used for oyster spat production at the Horn Point hatchery, as well as the planting of these spat by the Oyster Recovery Partnership. In 2014, two oyster sanctuaries (Harris Creek and Little Choptank River) were seeded using funds provided by MDOT and National Oceanic and Atmospheric Administration (NOAA). Harris Creek received 429.8 million spat, planted on ten different oyster bars (Turkey Neck, Mill Point, Change, Eagle Point, Hunts Little Neck, Lodges, Smith Point, Tilghman Wharf, and Upper Harris Creek). The total area covered by spat was 69.8 acres. Little Choptank River received

72.1 million spat, planted on three different oyster bars (Susquehanna, Cason, and Little Pollard). The total area covered by spat was 18.2 acres.

1.2 Sanctuary Program Administration

MDOT funds supported spring oyster population monitoring in sanctuaries by the Shellfish Division. Nine sanctuaries (1,439 samples) were sampled in 2014 using patent tongs to assess oyster size, density, and mortality. Information on water quality and shell volume was also recorded. Data analysis will assess oyster population demographics in sanctuary areas.

MDOT funds were also used to support the Annual Fall Oyster Survey conducted by DNR staff. In 2014, approximately 85 sites (data are not yet processed) were sampled on oyster bars located in sanctuaries. Oyster bars were sampled by a dredge and oyster size, density, spatfall, and mortality were measured along with water temperature, salinity, and depth. Several of these samples were sent to Oxford Laboratory for disease analysis. Results from this survey will be published in DNR's annual report.

In addition to the oyster monitoring conducted in sanctuaries using MDOT funds, MDOT funds were also used to employ one staff member (100% of their time) and funded seven staff that devote up to 50% of their time on sanctuary management.

2. Demonstration Projects and Monitoring

MDOT funds were used towards the Five Year Swan Point Power Dredging Study which began in 2010 and will be completed in early 2016 as well as the Swan Point Demonstration Project which began in 2014 (see attached agreement). These projects are a collaboration between DNR, oyster industry representatives, and the University of Maryland to achieve three objectives: (1) Determine the most cost effective means to restore the Upper Bay oyster industry; (2) Compare the effectiveness of power dredging to facilitate natural strike vs. power dredging used in conjunction with hatchery plantings in producing harvestable quantities of oysters in low salinity areas; and (3) Assess the impact of power dredging on habitat enhancement and spat settlement.

The fourth year (out of five years) monitoring occurred for the Five Year Power Dredging Study to assess natural oyster recruitment and shell volume on four treatment oyster bars where power dredging for oyster harvest occurs and three control oyster bars which on which power dredging is not allowed. In the control areas, harvest of oysters can occur but only by other gear types other than power dredging. Oysters bars with power dredging include Swan Point, Wildground, Parsons Island, Holland Straits. The control bars with no power dredging include Swan Point (Peach Orchard), Bodkin Shoals, Holland Straits. After the fifth year of monitoring, analysis will be conducted to determine effects of power dredging.

In 2014, the Swan Point Demonstration Project in the upper bay was initiated. Swan Point oyster bar was ground-truthed to assess the bottom habitat and determine suitable areas for planting hatchery oyster spat-on-shell. The site was planted with 22.1 million spat-on-shell on a sub-area of 20 acres in September 2014. After the area was planted with spat-on-shell, divers determined spat density and survivorship. Patent tong sampling also occurred in the area to determine baseline oyster density, shell volume, and natural recruitment rates. In the future, the entire area will continue to be surveyed for oyster density, survivorship, and natural recruitment.

Another demonstration project funded by MDOT funds was the Goose Creek Project. This project's objective is to examine differences in oyster abundance and natural recruitment after applying three different types of treatments to the area: (1) Planting 20,208 bushels of fresh shell on 20 acres; (2) Planting 19 million hatchery spat-on-shell on a 8.7 acre portion of the 20 acres planted with fresh shell; and (3) 5.2 acres of natural bottom with no replenishment activities. Planting activities were conducted in 2014. Future monitoring on all three treatment areas will occur in the fall of 2015.

3. Public Fishery Program

3.1 County Oyster Committees

Every tidal county in Maryland has an elected committee of watermen that harvest oysters using various gear types (with the exception on Calvert County, which did not elect a committee). These committees confer with DNR to make recommendations on oyster seed and shell planting. MDOT funds were allocated evenly among the tidal counties for planting of oyster shell and seed in 2014. DNR consulted with each County Oyster Committee during five public meetings to obtain recommendations for the annual county work plan. The annual work plan consisted of locations where wild seed, hatchery seed, and fresh shell were to be planted, as well as the amount of seed and shell that should be planted in 2014. DNR staff administered the implementation of these work plans by coordinating with the committees and the Oyster Recovery Partnership (ORP) to plant seed and shell. Overall, about 60% of the MDOT funds were used to plant 211 million hatchery seed. About forty percent of the public fishery allocated MDOT funds were used to plant 84,936 bushels of fresh shell. No funds were used to plant wild seed. Some funds under the hatchery seed expenditure category were used to conduct ground-truthing on proposed planting locations to determine if they were suitable to plant hatchery seed. Any fund that the county did not spend in FY2015 are rolled over and added to the FY2016 funds.

Expenditures and volume planted in 2014 by each oyster county committee in Maryland and allocation of wild oyster seed, hatchery seed, and fresh shell. Funding sources included \$800,000 from MDOT evenly allocated among the counties, oyster license surcharge fees, and revenue from the oyster bushel tax (\$1 per bushel sold within Maryland).

County Committee	2014 Expenditures				2014 Volumes Planted		
	Wild Seed	Hatchery Seed	Fresh Shell	Total	Wild Seed	Hatchery Seed (millions)	Fresh Shell (bushels)
ANNE ARUNDEL		\$36,070		\$36,070		19.85	
BALTIMORE CO		\$112,763		\$112,763			
CALVERT				\$0			2,756
CHARLES		\$66,822		\$66,822		17.67	
DORCHESTER		\$75,503	\$179,379	\$254,882		30.03	35,908
KENT		\$492		\$492		22.095	
QUEEN ANNE		\$1,475		\$1,475			
SOMERSET		\$219,814	\$76,929	\$296,744		71.40	15,648
ST MARYS		\$74,882	\$76,866	\$151,748		20.26	15,408
TALBOT			\$74,806	\$74,806			15,216
WICOMICO		\$37,260		\$37,260		30.63	
Totals	\$0	\$625,081	\$407,980	\$1,033,061	0	211.94	84,936
<small>Note: Baltimore County put seed in Anne Arundel County and Kent County. Dorchester County put seed in Talbot County. Somerset County put seed in Wicomico County.</small>							

3.2 Oyster Fishery Management

Some of the MDOT funds support management and monitoring of the public oyster fishery. In 2014, two staff were 100% funded through this category, and seven staff were funded up to 40% of their time on public oyster fishery management. Staff processed 24,715 monthly oyster harvest reports (to date), conducted quality assurance – quality control analysis on harvest data, and performed analysis of the harvest data. Staff corresponded with individual watermen, county oyster committees, and the public to respond to requests about harvest regulations, harvest analysis, and open harvest area boundaries.

In addition to the oyster fishery management staff, 2014 MDOT funds were used to develop and update the annual oyster closure book as well as print the book for each oyster surcharge holder (1,097 in 2014). The annual oyster closure book given to each surcharge holder consists of maps of Maryland oyster bars, areas closed to harvest either by the Maryland Department of the Environment due to poor water quality or by DNR as oyster sanctuaries, and six blank monthly harvest reports each watermen uses to report harvest or lack thereof.

MDOT funds are also used to support the Annual Fall Oyster Survey conducted by DNR staff. In 2014, approximately 220 sites (data are not yet processed) were sampled on open harvest oyster bars. Oyster bars were sampled by a dredge and oyster size, density, and mortality were measured along with temperature, salinity, and depth. Several of these samples were sent to Oxford Laboratory for disease analysis. Results from this survey will be published in DNR's annual report.

Attachment 1: Swan Point Demo Project Agreement

**Pilot Study to Evaluate the Impacts and Benefits of Expanding
Power Dredging in Waters Above the Chesapeake Bay Bridge
and Kent Narrows Bridge, and in Eastern Bay**

April 3, 2014

This document will serve as a written agreement between the Maryland Department of Natural Resources (MD DNR) and oyster industry members and their representatives (“Industry signatories”) for implementing a five year “Pilot Study for Evaluating the Impacts and Benefits of Expanding Power Dredging in Waters Above the Chesapeake Bay Bridge and Kent Narrows Bridge and in Eastern Bay”.

The MD DNR, in consultation with the Office of Attorney General, has determined that, to the extent regulations are needed to effectuate the terms of this Agreement, MD DNR has the authority to propose and adopt those regulations.

A. Foundational principles:

- 1) A power dredge fishery above the Chesapeake Bay Bridge and Kent Narrows Bridge, and Eastern Bay should not place further risk to the region’s oyster population.
- 2) The size of any ‘new’ power dredge area should be proportional to the amount of area that the oyster industry would agree to plant with hatchery spat on shell. A 2.5:1 power dredge area to hatchery spat on shell planting area ratio will be used to determine the size of any new areas.
- 3) The spat on shell will be planted at a minimum density of 1 million spat on shell per acre.
- 4) There will be a collaborative monitoring program implemented by all parties to this agreement. The monitoring program will be designed to examine the impacts of power dredging and the cost effectiveness of using power dredging to enhance the natural production of oysters as compared to using hatchery spat on shell planting.
- 5) This pilot project will have a five year term and may be extended upon the consent of all parties.
- 6) Public funds administered by MD DNR collected from oyster surcharge and oyster bushel tax, and channel dredging mitigation funds from the Maryland Port Authority will be used to support this project. The Industry signatories have agreed to provide the necessary vessels, captains/crews and fuel to support the implementation of the detailed monitoring plans referenced in Sections B and C. If additional monitoring funds are necessary, the parties will work collaboratively to address these needs.

B. Power Dredging above the Chesapeake Bay Bridge and Kent Narrows Bridge

Kent, Baltimore and Queen Anne’s County Oyster Committees and MD DNR agree to the following:

- 1) Maintaining the 560-acre Swan Point power dredge study area as a power dredge harvest area under the condition that the Industry signatories will commit to planting hatchery spat on shell at a minimum density of 1 million hatchery spat on shell / acre on area to be agreed upon. The remaining area will not be planted with hatchery spat on shell, rather, it will be dependent upon receiving baby oysters (spat) from natural production. The Industry signatories agree to use the already established 560-acre Swan Point power dredge study area. The industry’s request to make a minor expansion to this area to

better align buoys with land markers to facilitate on-the-water compliance by the industry to stay within the pilot area is under review by the Department. If the Department agrees to propose this modification to its existing regulations establishing the power dredge study area, a map reflecting the mutually agreed upon modification will be created by May 1, 2014. In addition, the areas to be planted with hatchery spat on shell each season are to be identified on a map by May 1 for each year of the five year pilot study beginning in 2014.

- 2) Closing areas planted with hatchery spat on shell to harvest for at least three growing seasons in order to reach market size. MD DNR will propose regulations establishing that areas planted with hatchery spat on shell will be opened for harvest by public notice for a period mutually agreed upon between MD DNR and the pertinent County Oyster Committees that are party to this Agreement. The parties may extend the closure period by mutual agreement as conditions dictate.
- 3) Providing permission for oystermen to work the study area with power dredges and/or other approved gear, outside of the oyster fishing season if it is determined necessary to maintain surface shell. Prior written permission by the Maryland Department of Natural Resources will be required, and restrictions such as the number of oystermen, dates and times will need to be established in order to address enforcement and user conflict issues. These restrictions will be developed in consultation with the pertinent County Oyster Committee(s) and other interested stakeholders.
- 4) Not closing the power dredge / hatchery spat on shell pilot project if there is a year for which there is insufficient funding to plant hatchery spat on shell, or there becomes a need to use the available funds in another manner. MD DNR agrees to this flexibility, and the Industry signatories agree that they would not use this as a strategy to not fulfill their hatchery spat on shell commitment for this project.
- 5) Committing to the following funding plan to plant hatchery spat on shell at a minimum density of 1 million oysters per acre over the next three years within the designated Swan Point Power Dredge Pilot Study Area.
 - a. Year 1

Baltimore County Oyster Committee:	\$72,000
Kent County Oyster Committee:	<u>\$72,000</u>
Total	\$144,000
 - b. Year 2

Kent County Oyster Committee:	\$72,000
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 - c. Year 3

Kent County Oyster Committee:	\$72,000
Total for Years 1-3:	\$288,000
 - d. Year 4 and 5 - Funding will be determined at a later date based upon a review of available funds and project results to date.
- 6) Developing a detailed monitoring plan by May 15, 2014.

C. Power Dredging in Queen Anne’s County waters of Eastern Bay

Queen Anne’s and Kent County Oyster Committees and MD DNR agree to the following:

- 1) Proposing regulations to establish a new Power Dredge Pilot Study Area in the Queen Anne’s County waters of Eastern Bay. A map of the area will be developed and agreed upon by May 1, 2014.

- 2) Basing the power dredge study area size on a 2.5:1 power dredge area to hatchery spat on shell planting area ratio.
- 3) Closing areas planted with hatchery spat on shell to harvest for at least three growing seasons in order to reach market size. MD DNR will propose regulations establishing that areas planted with hatchery spat on shell will be opened for harvest by public notice for a period mutually agreed upon between the MD DNR and the pertinent County Oyster Committee(s).
- 4) Providing permission for oystermen to work the study area with power dredges and/or other approved gear, outside of the oyster fishing season if it is determined necessary to maintain surface shell. Prior written permission by the Maryland Department of Natural Resources will be required, and restrictions such as the number of oystermen, dates and times will need to be established in order to address enforcement and user conflict issues. These restrictions will be developed in consultation with the pertinent County Oyster Committee(s) and other interested stakeholders.
- 5) Not closing the power dredge / hatchery spat on shell pilot project if there is a year for which there is insufficient funding to plant hatchery spat on shell, or there becomes a need to use the available funds in another manner. MD DNR agrees to this flexibility, and the Industry signatories agree that they would not use this as a strategy to not fulfill their hatchery spat on shell commitment for this project.
- 6) Committing to planting hatchery spat on shell at a density of no less than 1 million oysters per acre over the next three years within the designated Pilot Power Dredge Pilot Study Area. The planting of hatchery spat on shell in years 4 and 5 will be determined at a later date based upon a review of available funding and project results to date. The Kent and Queen Anne's County Oyster Committees agree to provide a funding plan for Years 1-3 by May 1, 2014.
- 7) Identifying areas to be planted with hatchery spat on shell by May 1 of each year for the duration of this pilot project beginning in 2014.
- 8) Developing a detailed monitoring plan by May 15, 2014.

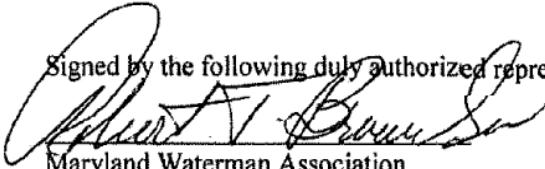
Funding Obligations.

All State funding and financial obligations referenced within this Agreement are contingent upon sufficient appropriations made by the State of Maryland. Industry financial obligations are also contingent upon the availability of oyster surcharge, oyster bushel tax and Maryland Port Administration funds.

Termination of Power Dredge Pilot Study.

- 1) The Department may terminate this Agreement for one or both of the agreed upon power dredge pilot projects if it is determined that (1) sustained or repeated illegal activity has compromised the integrity of the pilot project to the point where the data being collected is compromised, or (2) other circumstances related to the project make termination in the best interest of the State. This determination will be made in consultation with the pertinent County Oyster Committees and scientists involved in implementing the monitoring plan for this pilot project.
- 2) This agreement, unless extended or terminated earlier by mutual agreement of all parties, will terminate on April 3, 2019.

Signed by the following duly authorized representatives (in counterpart),



Maryland Waterman Association

Printed name: Robert T. Brown

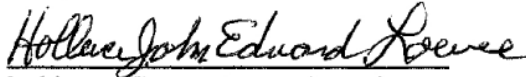
Title: President



Maryland Oysterman's Association

Printed name: Jim Mullin

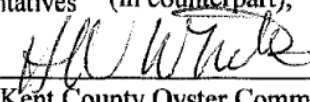
Title: President



Baltimore County Oyster Committee

Printed name: Hollice Lowe

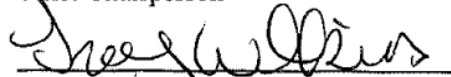
Title: Chairperson



Kent County Oyster Committee

Printed name: Chuckie White

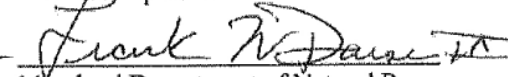
Title: Chairperson



Queen Anne's County Oyster Committee

Printed Name: Troy Wilkens

Title: Chairperson



Maryland Department of Natural Resources

Printed Name: Frank Dawson

Title: Deputy Secretary