

Meeting Summary
Oyster Advisory Commission (OAC) Meeting
Maryland Department of Natural Resources (DNR), Tawes State Office Building
Annapolis, MD
(6:00 PM – 9:30 PM)
October 17, 2016

LIST OF ATTENDEES

Commissioners Present:

Kelley Cox (Co-Chair)	Phillips Wharf Environmental Center (PWEC)
J.D. Blackwell	38° North Oysters
Don Boesch	University of Maryland Center for Environmental Science (UMCES)
Robert T. Brown	Maryland Watermen’s Association
Kelton Clark	Morgan State University (MSU)
Ron Fithian	Kent County Commissioners
Bill Goldsborough	Chesapeake Bay Foundation (CBF)
Jeff Harrison	Talbot County Watermen’s Association
Steve Hershey	State Senator
Doug Legum	Douglas Legum Development Inc.
Ken Lewis	Coastal Conservation Association (CCA)
Johnny Mautz	State Delegate
Jim Mullin	Maryland Oystermen’s Association (MOA)
Ben Parks	Maryland Watermen, Dorchester County
Deborah Rey	State Delegate
Peyton Robertson	National Oceanic and Atmospheric Administration (NOAA) Chesapeake Bay Office
Eric Schott	University of Maryland Center for Environmental Science (UMCES)
Angie Sowers	U.S. Army Corps of Engineers (USACE), Baltimore District
Ann Swanson	Chesapeake Bay Commission

Commissioners Unable to Attend:

Scott Eglseder (Co-Chair)	Eglseder Wealth Management Group, Inc.
Bill Kilinski	Charles County Watermen’s Association
Jim Mathias	State Senator
Jason Schmidt	Talbot County Seafood Heritage Association
Aubrey Vincent	Lindy Seafood

Other Meeting Attendees Present:

Bay Journal: Mr. Tim Wheeler

Calvert County Oyster Committee: Ms. Rachel Dean, Mr. Simon Dean

Chesapeake Bay Foundation (CBF): Ms. Hilary Gibson, Mr. Tom Zolper

Citizen: Ms. Jennifer Herzog, Mr. Michael Malpezzi

Congressman Andy Harris' Office: Ms. Denise Lovelady

Delmarva Fisheries Association Inc.: Capt. Robert Newberry

Maginnes Productions: Mr. David Maginnes

Maryland Department of Natural Resources (DNR): Ms. Jodi Baxter, Secretary Mark Belton, Mr. Dave Blazer, Mr. George O'Donnell, Mr. Eric Weissberger, Mr. Chris Judy

Maryland Department of Transportation's Port Administration (MDOT-MPA): Mr. Matt Talffen

Maryland Department of the Environment, Public Health: Kathy Brohawn

Maryland Environmental Service (MES): Ms. Maggie Cavey

Maryland Grow Oysters (MGO): Mr. Bob Whitcomb

National Oceanic and Atmospheric Administration (NOAA): Ms. Stephanie Westby

Senator Steve Hershey's Office: Ms. Erika Howard

Virginia Marine Resources Commission (VMRC): Mr. Jim Wesson

Handouts:

- Meeting Agenda
- September 12, 2016 Draft Meeting Summary
- Presentation – Virginia Oyster Management and Sanctuaries
- Presentation – Report on the September 24, 2016 Meeting with the County Oyster Committees
- Presentation – Chesapeake Bay Agreement Oyster Restoration Tributary Selection
- Table – Chesapeake Bay Agreement Candidate Tributary Selection Results

Note: Meeting agendas, handouts and approved meeting summaries will be available on the OAC webpage:

<http://dnrweb.dnr.state.md.us/fisheries/management/?com=oac&page=meetings>

Action Items:

- DNR will host an additional meeting for Commissioners who wish to have a more thorough briefing of the 5-Year Oyster Report. **(DNR set up a meeting for Nov 2, 2016. This meeting was cancelled due to only 2 commissioners responding. DNR will meet one-on-one with these commissioners to review the report.)**
- DNR will provide the OAC with the citations from the Environmental Impact Statement (EIS) that support DNR's closure of 20%-30% of natural oyster bottom. **(Completed)**
- DNR will meet with the leadership of the Marylanders Grow Oysters Program as well as other environmental organizations that have an interest in oysters to discuss their opportunity to submit proposals to the OAC for changes to the oyster sanctuary and fishery areas in Maryland. **(Completed)**
- DNR will send the OAC a copy of the "worksheet" that was given to the County Oyster Committees to guide their proposals for changes to the oyster sanctuary and fishery areas in Maryland, as well as to propose rotational harvest areas. **(Completed)**
- At the next OAC meeting, DNR will present an overview on the proposals submitted by the County Oyster Committees. DNR will provide the OAC with data on these areas to facilitate a discussion on the potential impacts associated with the proposed changes.
- DNR will contact the USACE to find out if the economic benefit of potential jobs is part of their evaluation process for reviewing permit requests. **(Completed)**

MEETING SUMMARY:

Welcome and Introductions (Kelley Cox, Co-chair)

The meeting attendees introduced themselves.

Meeting Summary Approval (Kelley Cox, Co-chair)

The September 12 meeting summary was approved by the Commissioners.

Virginia Oyster Management and Sanctuaries

(Jim Wesson, VMRC)

Presentation: Virginia Oyster Management and Sanctuaries

Mr. Wesson described the management practices currently being used in Virginia for the restoration of historic oyster habitat and the management of oyster harvest areas. Mr. Wesson's presentation is available on the OAC website.

- Mr. Robertson asked if Virginia conducted a stock assessment at the end of the first 3 years of the projects.
 - Mr. Wesson explained that Virginia's stock assessments are performed annually for each area.
- Mr. Legum noted that Mr. Wesson had described damage to the oyster bars caused by the harvesting equipment used for oyster harvesting in Virginia. He asked if there was any kind of fishing gear that would cause less damage. He also asked if there is a noticeable

difference between equipment being used in Virginia and the equipment being used in Maryland.

- Mr. Wesson explained that the gear currently being used (hand scrape and dredge) are the most efficient means of harvesting oysters and that both states use dredges. He stated that the continual harvest of oysters every year is what results in the worst damage to oyster bars. Areas managed through rotational harvest do not experience this type of damage because they are allowed to recover between harvests. Areas are closed to harvest for 34 months and opened for harvest 2 months.
- Mr. Legum suggested that it might be beneficial to identify alternative oyster harvesting equipment that would cause less damage to the oyster bars and reefs in the future. He noted that the majority of the harvest equipment that is currently being used in the Chesapeake Bay was developed in the 1800s and in other places in the world more advanced harvest technology is used.
 - Mr. Wesson agreed but stated that the equipment used in Maryland and Virginia is the most effective method of harvest.
- Mr. Legum asked about the success that Virginia has had with using alternative substrates (stone and other materials) rather than just using oyster shell to restore oyster habitat.
 - Mr. Wesson agreed that Virginia has effectively used alternative substrates such as stone to restore oyster reefs although he noted that when stone is placed on top of shell this can result in the underlying shell being crushed and buried and that they have found that in these cases that it is better to place shell on top of shell. Mr. Wesson stated the Virginia uses alternative substrate where ever possible for oyster habitat restoration in sanctuaries in order to conserve shell for use in replenishing public oyster grounds.
- Mr. Mullin asked if rotational harvest is allowed within the Virginia oyster sanctuaries.
 - Mr. Wesson explained that rotational harvest areas are located near some of the oyster sanctuaries in Virginia but not within these areas. He noted that monitoring sanctuaries side by side with areas that are open to harvest allows Virginia to compare the impact that rotational harvesting has on the oyster reefs to the sanctuary areas which are impacted only by natural predation and disease. Virginia has found that the rotational harvest areas recover to a state similar to the adjacent sanctuary areas after about 3 years.
- Mr. Schott clarified that the sanctuaries in Virginia are never open for harvest.
- Mr. Mullin asked where the funding for replenishing shell in the sanctuaries and rotational harvest areas comes from and whether any of the funding comes from the oyster industry. He asked for Mr. Wesson's opinion about what investments are needed to in order to ensure the success of oyster sanctuaries and public oyster grounds in Virginia.
 - Mr. Wesson explained that the State, along with a variety of partners, provide funds for maintaining and monitoring sanctuaries and harvest areas. He explained

that an ongoing financial investment is needed in order to maintain these areas because continued monitoring and placement of shell is necessary. During monitoring the quantity of shell is evaluated as well as the quantity of live oysters. Virginia has found that to create a successful environment in the sanctuaries and harvest areas, they must maintain a minimum of 5 liters of shell per square meter of oyster bottom ($5\text{L}/\text{m}^2$) in order to achieve a good natural spat set. Each year, Virginia re-shells to maintain the areas that are producing 1,000 bushels per acre at $5\text{L}/\text{m}^2$. They maintain these areas at $5\text{L}/\text{m}^2$ in both the sanctuary and harvest areas.

- Mr. Goldsborough asked about natural shell degradation in the sanctuaries and rotational harvest areas and whether the shell degrades at the same rate in both areas. He asked if Mr. Wesson believed that the shell that is being placed to maintain the bottom at $5\text{L}/\text{m}^2$ was degrading very fast. Mr. Goldsborough also expressed concern that the high rate of disease that occurs in Virginia is affecting the Virginia's shell budget.
 - Mr. Wesson explained that Virginia has documented a 4 year half-life for shell that is being placed on oyster reefs due to natural shell degradation (in other words, $\frac{1}{2}$ of the shell is lost after 4 years). The loss of shell is due to disease that kills live oysters; burial of shell by sediment; the activity of boring sponges; and other causes of natural shell degradation. This loss of shell accounts for why there is never as much shell as was originally placed after the end of each season.
- Ms. Sowers asked why the same amount of shell is lost from sanctuaries as is lost from rotational harvest areas and why the sanctuary areas and harvest areas look the same after 3 years. Given that shell is removed from the harvest areas when the oysters are harvested it would make sense that loss of shell in the harvest area would happen faster than on sanctuaries where harvesting is not permitted.
 - Mr. Wesson agreed that shell placed in the sanctuary areas lasts longer than in the rotational harvest areas. In the sanctuary areas shell has an estimated half life of 5-6 years and shells in the harvest rotation areas have a half life of 4 years. Mr. Wesson explained that the shell in the sanctuary areas lasts longer but boring sponge and red sponge in these areas will cover the shell and make the shell unavailable for oyster spat to attach to. So although there may be more shell present on the Virginia oyster sanctuaries, if the shell is covered with sponges then it is not available for oysters to grow on.
- Mr. Schott asked Mr. Wesson about his graphs which show the quantity of spat, small, and market sized oysters from adjacent areas (rotational harvest areas and un-harvested sanctuary areas). He asked why the quantity of spat, small, and market sized oysters within the sanctuary areas could be so similar to the adjacent areas that are harvested every 3 years. He indicated that he would expect higher survivorship of oysters in the sanctuary areas that are never harvested. Mr. Schott also asked Mr. Wesson about the effect of harvesting gear not just on the market sized oysters but also on the spat and the oysters that are too small to harvest.
 - Mr. Wesson stated that the graphs that he had shared with the Commission depicted pre and post-harvest which really illustrates a short term effect of

harvesting. He agreed that in the long term there may be higher survivorship of oysters in the sanctuary areas that are never harvested but this was not looked at in the studies that were undertaken.

- He noted that although one would expect a greater number of oysters per square meter in the sanctuaries this is not case. The sanctuary and harvest areas have similar numbers of oysters per square meter. It is just the size ratios that are different between the two areas.
- Mr. Schott stated some of what is observed in the sanctuaries may be related to the oysters' biological ability to grow to a reproductive state and reproduce because they are not being harvested in these areas. He also inquired about the oyster biomass and the mass of shell that is recorded. He noted that Virginia counts each oyster (as one oyster) regardless of its size.
 - Mr. Wesson agreed that a spat and a market oyster were each being counted as one oyster. Mr. Wesson explained that the Virginia goal is to increase the overall number of oysters. Virginia has found that in the sanctuary areas that once the oysters reach a certain size they will start to die due to disease.
- Mr. Schott asked if the Virginia researchers have observed high levels of natural spat set and find that the large oysters provide a surface on for oyster spat to become attached to.
 - Mr. Wesson explained that some of the larger oysters do catch spat.
- Mr. Legum stated that it appears that the graphs depict more market sized oysters occurring in the harvest areas then in the sanctuaries.
 - Mr. Wesson agreed that the results show more large sized oysters in the harvest areas but he explained that this does not necessarily mean that there were more oysters overall in the harvest areas than in the sanctuary areas.
- Mr. Legum asked if Virginia currently places spat on shell in their oyster harvest areas and sanctuaries. He asked if there is successful natural spat set in Virginia why there would be more natural spat set in Virginia than in Maryland and what other differences there are between Maryland and Virginia. He also inquired about natural spat sets in Virginia in regards to location and salinity.
 - Mr. Wesson explained that the two states are different in a number of ways. Salinity varies throughout the Bay which can cause large variations in spat sets. Low salinity results in low spat sets (such as Maryland) but it also means less disease. Higher salinity can result in better spat set but higher salinity in Virginia waters also leads to more problems from oyster disease.
 - He clarified that the oyster sanctuaries in Virginia are off limits to harvest and he also noted that the lower bay in Virginia has a larger number of oyster predators than occur in the upper bay waters in Maryland and this also results in higher oyster mortality rate.

- Mr. Wesson explained that a shift in spat set has occurred in Virginia (that he believes is due to a natural cycle). In the 1990s and early 2000s, Virginia had repeatedly poor spat sets. However, around 2004, Virginia spat sets started to improve and since then Virginia has had repeatedly higher spat sets. The best spat sets in Virginia occur at the mouth of the James River.
- Mr. Wesson stated that the main message he wanted to share with the Commission is the importance of rotational harvest. He also stated that a rotational harvest plan in Maryland could be effective if Maryland varied the years between harvests and plantings so that some harvest areas would be open each year.
- Mr. Boesch asked if sanctuaries were present in Virginia during the 1990's when there was poor natural spat set.
 - Mr. Wesson answered yes.
- Delegate Rey asked if Virginia is planting shell each year and asked what the associated cost was for planting was and what the return on investment is.
 - Mr. Wesson stated that \$2 million (M) a year is spent to try to maintain both harvest and sanctuary areas at 5 L/m². Mr. Wesson added that 1,500 acres are currently below the desired minimum of 5 L/m² and based on low funding, 900 acres will not be planted this year. All of the funding is used to plant existing harvest areas and no new areas are being planted. Mr. Wesson stated that in regards to Virginia's return on investment, 250,000 bushels were caught at the rate of \$40 a bushel making the return on a \$2 M investment, \$10 M.
- Mr. Robertson asked Mr. Wesson about the work Virginia has done to reduce fishing effort over time by decreasing the number of oyster fishing licenses. He asked about the distribution of license holders across the state.
 - Mr. Wesson described the dispersal of harvesters as a sweepstakes. License holders will move around the state, following the areas as they open for harvest. The longest any area is open for harvest is 2 months. Mr. Wesson stated that when a new area opens, most all harvesters flock to that area regardless of how well or poorly the area they were working before was.
- Mr. Robertson stated that the use of a sweepstakes style fishery provides a way for Virginia to manage the harvest through fishing effort and distribution as Virginia closes areas to allow time for the harvest areas to recover.
 - Mr. Wesson stated that the target number of licenses is currently 600 but stated that that number could decrease in the future. He added that fewer licenses makes a major difference in income for the waterman.
- Mr. Blackwell stated that Mr. Wesson had reviewed what Virginia is doing in terms of harvest rotation and controls on fishing effort and asked if he had any other suggestions he had not previously discussed such as a change in gear type.

- Mr. Wesson stated that the gear has evolved and gotten heavier which has its advantages and disadvantages. A heavier dredge may allow for waterman to come and catch their limit faster which could be seen as a benefit for the bottom. He explained that if their average harvest work day is 8 hours as opposed to 2 hours, then more damage would be caused on a longer day. With a shorter work day, they would make fewer passes and cause less damage to the bottom. Mr. Wesson explained that the only thing he may suggest doing differently would be to create smaller areas to place in rotation as Virginia has found that there is larger harvest in the small areas verses the larger harvest areas.
- Mr. Blackwell also asked if there was evidence of water chemical effects on the shell being planted.
 - Mr. Wesson explained that he does not believe it is a case of ocean acidification. He added that when examining the shells that have been dredged for planting they possess similar signs of degradation as they would anywhere else which illustrates that water chemistry issues are historic and always present.
- Mr. Blackwell asked if the sanctuary areas provide broodstock and if the oysters in the sanctuaries are contributing to the spat sets in the adjacent harvest areas.
 - Mr. Wesson stated that the sanctuary areas do provide broodstock and contribute to spat set in the adjacent harvest areas. He noted that Virginia has yet to see a correlation between a harvest area surrounded by 2 sanctuary areas verses a harvest area surrounded by none.
- Senator Hershey asked Mr. Wesson to explain how Virginia is working to reach the goals of the 2014 Chesapeake Bay Agreement as many Commissioners feel as though Maryland is being rushed through the process.
 - Mr. Wesson stated that Virginia has selected all 5 restoration tributaries under the Chesapeake Bay Agreement. He noted that Virginia has been lucky to have been able to find locations for these areas which have limited effect on the public oyster fishery. These areas are mainly seed areas and areas where only private leasing occurs, as well as areas off limits to harvesting due to pollution. Mr. Wesson stated that of the 240,000 acres of public oyster bottom in Virginia, only 30,000 acres have been designated as sanctuary area for oyster reef habitat restoration (Virginia sanctuary areas are located in the Great Wicomico, Lafayette, Elizabeth, and Piankatank Rivers).
- Mr. Brown stated that Maryland selected Harris Creek (where there was a lot of public oyster bottom) as one of the restoration tributaries and in contrast Virginia has been able to select tributaries with little to no effect on public oyster bottom. He asked about the average sizes of the Virginia restoration tributaries, sanctuaries, and rotational harvest areas.
 - Mr. Wesson stated that the restoration tributary sanctuaries that have been selected by Virginia vary in size from large to small areas. Having smaller sanctuaries means that it may be difficult to monitor the sanctuary areas to enforce poaching laws. Mr. Wesson stated that if someone is caught harvesting in

a Virginia sanctuary they are banned from the fishery for 2 years. Mr. Brown explained that in Maryland poaching will get someone banned from the oyster fishery permanently.

- Ms. Sowers asked which of the tributaries in Virginia that had been selected as restoration tributaries had no public oyster fishery impact associated with the designation. She also asked how many of the public oyster bottom areas are managed under rotational harvest regulations.
 - Mr. Wesson explained that areas in the Rappahannock, York, Mobjack, and Tangier Sound are currently managed as rotational harvest areas. He indicated that Virginia would be establishing additional rotational harvest areas once there was more control over fishing effort. Mr. Wesson stated that the long term goal would be to have rotational areas spread throughout the state in tributaries including the James and Wicomico Rivers.
- Mr. Goldsborough asked if Maryland could purchase buried shell from Virginia and if the 5th tributary that Virginia is considering as a restoration tributary is the Lower York.
 - Mr. Wesson explained that Virginia could not sell their shell and that he could not say if Virginia was considering the Lower York River.
- Mr. Fithian agreed with Mr. Wesson that the most important element of oyster harvesting is having shell to place back on public oyster bottom. Mr. Fithian asked how long Virginia had been using the buried shell that is dredged from the bottom of the bay for replenishment of public oyster bottom.
 - Mr. Wesson stated that the dredge equipment that is used for this purpose was built in the 1970s and is still in working condition. This equipment does not currently have enough work for it to be operated year round (it is operated 1.5 months out of the year).
- Mr. Fithian stated that Maryland provided business for the Virginia dredge for 46 years. He noted that since Maryland has not planted anything on their bars in the past 10 years, Maryland should not be shocked by the stress on the oyster industry.
- Mr. Fithian asked Mr. Wesson, how long it takes for Virginia to get approval to dredge buried shell once they have applied for a dredging permit.
 - Mr. Wesson stated that Virginia applies for a permit each year and receives word of approval within 2 months. Mr. Fithian stated that it takes Maryland much longer to receive permit approval.
 - Mr. Wesson stated that dredging for shell in Virginia has a relatively low environmental impact and the benefits of using the shell outweigh the costs.

Ms. Cox thanked Mr. Wesson for his presentation and all the information he provided. The Commission took a 10 minute break.

County Oyster Committees Proposal Process

(Chris Judy, DNR)

Presentation: Report on the September 24, 2016 Meeting with the County Oyster Committees

Mr. Judy updated the OAC regarding their request that DNR obtain industry input about changes to sanctuary and fishery area boundaries.

At the September 12, 2016 OAC meeting it was decided that DNR and the County Oyster Committees should meet to discuss rotational harvesting as it relates to the OAC's "Task 3", with an emphasis on rotational harvest in areas that are now sanctuaries. On September 24th, a meeting was held with the Oyster Committee chairs (and others that attended), to discuss the OAC's request for input. County Oyster Committees not able to attend the September 24th meeting met with Mr. Judy on an individual basis. The only committee to not reply was the Baltimore County Oyster Committee.

Mr. Judy stated that DNR had supplied a worksheet with guidelines to the Oyster Committees to guide them in the development of their recommendations. This worksheet will be sent to the OAC. As of October 17th, two proposals with recommendations have been submitted to DNR by Oyster Committees and three other Oyster Committees have indicated that they are close to submitting recommendation proposals.

DNR has asked the Oyster Committees to submit their proposals for rotational harvest before November 14th, the date of the next OAC meeting. The proposals will be reviewed by the Commission at this next meeting.

- Mr. Boesch asked if DNR had talked to the County Oyster Committees about the option of exchanging public oyster bottom for areas which are currently protected as sanctuary.
 - Mr. Judy replied that yes, the exchange of bottom was discussed at the meeting.
- Delegate Rey asked whether areas opened to rotational harvest would still be designated as sanctuaries.
 - Mr. Judy replied that if a proposal for rotational harvest within a sanctuary was approved, that area of the sanctuary would lose its designation as a sanctuary and would be designated as public oyster bottom instead.
 - Mr. Judy stated that, as an option, rotational harvest can already be implemented on existing public bottom (outside of the sanctuary areas) without the need for OAC review, because DNR has authority to do so and it wouldn't impact any sanctuaries or restoration areas. It is a simple matter of working with the County Oyster Committees, who have been briefed on this topic. However, he noted that because each County Oyster Committee faces different challenges, DNR expects to receive a variety of proposals and some may propose converting sanctuaries to public oyster bottom.
- Mr. Legum asked if either of the two Oyster Committee proposals that have been received so far (or any of the anticipated proposals) are proposing that the sanctuaries in Maryland that have already received federal funding for restoration projects be opened to public oyster harvest.

- Mr. Judy stated that none so far have done so, and that DNR briefed the Oyster Committees that certain areas were not available for these proposals: such as the 2 Federally funded restoration tributaries (Harris Creek, Tred Avon) and the restoration sites in the DNR funded restoration tributary (Little Choptank), and sites in any sanctuary where MGO (or other gardening effort) sanctuary oysters were planted.
- Mr. Parks asked if any of the proposals mention a change in the harvest equipment that would be used on the rotational harvest area.
 - Mr. Judy stated none of the proposals to date propose changing gear type, and that DNR advised the County Committees to not do so because that adds another layer of complication to the proposals. DNR recommends keeping the proposals simple regarding gear types: keeping the same gear type as currently allowed is the best approach.
- Mr. Brown stated that it might be beneficial to convert some of the sanctuaries that do not have any restoration investment associated with them back to public oyster bottom where rotational oyster harvest program areas could be set up. Mr. Brown argued that if Maryland were able to create a 4 year rotational program (areas are re-shelled and the oysters are allowed to grow for 4 years before being harvested), this strategy might be more beneficial to the Bay than a sanctuary since the older oysters that are more susceptible to disease would be removed every four years.
- Mr. Harrison agreed with Mr. Brown. He noted that the oyster industry is reluctant to have the State convert any additional public oyster bottom to sanctuary areas because they feel that they have given up too much of their harvest areas already. He stated that 50% of the best harvest bottom areas in the State have already been converted to sanctuary. There currently are two sanctuaries in Talbot County and 9% of harvest reserve areas in the County have already been converted to sanctuary.
- Mr. Parks expressed concern that re-shelling areas is not enough to get a good growth of oysters because natural spat set is so low. He noted that the Dorchester County oyster harvesters have seeded their harvest areas themselves because no public funding was available. He suggested that public funding be used to open rotational harvest areas in the State and to re-shelling and plant spat in these areas.
- Delegate Mautz asked if the County Oyster Committees were provided with some sort of memo explaining rotational harvest. He asked if any of the counties intended to propose rotational harvest in their proposals and asked if there was a true definition of rotational harvest.
 - Mr. Judy explained that the County Oyster Committee representatives were given a brief presentation about the proposal process, its guidelines and the rotational harvest component. They were then given the worksheet to complete, which states the guidelines at the bottom. Each one was discussed in full. He explained that DNR does not have a specific definition of rotational harvest but its basic trait

is the planting and harvesting of sites on a rotational schedule. Some of the Oyster Committees have indicated that they may propose the establishment of rotational harvest areas and are considering the potential benefits of small and large areas. Many of the Oyster Committees are thinking it would more beneficial to propose a number of small areas so that they can rotate between these smaller areas.

- Delegate Mautz asked if these proposals would be discussed at the November OAC meeting. He suggested setting a limit to how much harvest bottom can be taken as sanctuary in each county. Delegate Mautz cited the example Mr. Harrison had previously mentioned regarding a majority of harvest area in Talbott County is considered sanctuary and asked what the science was behind selecting 20%-40% of bottom as sanctuary areas.
 - Mr. Judy explained that the Environmental Impact Statement (EIS) was the origin of the closure ratio for oyster bottom of 20%-30%. The EIS cited worldwide (not in the Bay) studies that together recommended a closure ratio of 20% to 40% of an area to enhance biodiversity, conserve populations, and protect the ecosystem. Mr. Judy stated that citations from the EIS are available and that they would be provided to the Commissioners.
 - Mr. Judy stated that he has received some proposals from the Oyster Committees and that they will be brought before the Commission for review. Mr. Judy also stressed that that each county will have different proposal ideas.
- Mr. Goldsborough asked if DNR would be soliciting proposals from other stakeholders.
 - Mr. Blazer stated that once proposals had been submitted and reviewed a public meeting would then be held to share the submitted proposals.
- Mr. Schott asked if Maryland was considering a sweepstake for licenses as Mr. Wesson had mentioned takes place in Virginia.
 - Mr. Judy stated that the number of oyster harvest licenses would currently remain the same, but it is an issue OAC could discuss (there is a maximum of about 3,000 TFL licenses, but only about 1,100 are able to oyster because they have paid the oyster surcharge).
- Mr. Schott stated that he agreed with Mr. Wesson that each time harvesting equipment is passed over the rotational harvest area more damage is inflicted on the oyster bottom habitat. When more licenses are available there will be more harvesters working and this additional fishing effort results in more damage to the reefs. Therefore it may be beneficial to limit the number of licenses as this would in turn limit the damage to the oyster habitat. Mr. Schott noted that a high level of harvest effort results in a situation where multiple age classes of oyster will not develop in the rotational harvest areas.
 - Mr. Judy noted that the County Oyster Committees currently plant seed on public oyster bottom using county based industry funds. When any rotational harvest area is opened to harvest it is legally open to anyone (not just the harvesters in the county that made the planting) and harvesters will travel and work the area, placing a significant effort on the area.

- In order to address this problem, Mr. Judy suggested one strategy would be for County Oyster Committees to form a cooperative organization and lease the oyster bottom from the State in order to limit harvest effort.
- Mr. Brown stated the County Oyster Committees are considering opening up 5 to 6 areas for harvest at one time throughout the state for rotational harvest. He explained that when considering rotational harvest, there should be areas in rotation spread out throughout the state so that waterman would be able to work locally to harvest rather than spending money to travel to areas open for harvest. Mr. Brown stated that it would be ideal for the areas to be open by the first week of December so the watermen are able to meet holiday orders and receive premium prices. Once the watermen use the short harvest season to meet orders, those areas would remain closed for 4 years before reopening.
 - Mr. Judy agreed that this was another approach to limit harvest when an area opens and that some of the County Oyster Committees are suggesting time limits on harvest; meaning a particular area may only be open for harvest for one or two months.
- Mr. Robertson asked if DNR had suggestions on what the OAC should consider when reviewing the proposals. He suggested that DNR provide data about the areas evaluated in the proposals to provide information for the OAC members to consider as they evaluate the proposals. Mr. Robertson also recommended that the OAC members keep in mind the concept of having sanctuaries adjacent to rotational harvest areas and the importance of maintaining 20%-40% of the oyster habitat in protected areas in order to develop broodstock and a healthy ecosystem.
 - Mr. Schott agreed that maintaining 20%-40% of the oyster habitat in areas that are protected from harvest (sanctuary) is very important in order to ensure ecological benefits.
- Mr. Robertson asked if there was data looking at the broodstock in adjacent sanctuary areas discussed in the 5-Year Oyster Report.
 - Mr. Blazer stated that when evaluating the proposals the Commissioners can reference the 5-Year Oyster Report for supportive data.
- Ms. Swanson asked that DNR provide the OAC with numbers for the percent of oyster bottom that is currently designated as sanctuary in each county. This would allow the OAC to avoid removing the majority of public oyster bottom in any one county from available harvest area.
 - Mr. Judy stated that DNR is currently creating a table to display the percentages by county, using the same calculation process that was used when the 24% acreage closure value was developed.
- Mr. Clark asked who would be providing the funding for rotational harvest areas and who would be the management agency that dispensed the funding. He asked if it was possible for the counties to serve as the management agency.
 - Mr. Judy stated that the counties (through MDOT, surcharges, and bushel taxes) would provide the funding and other resources and that DNR is the management

agency. Mr. Judy stated that DNR must serve as the management agency because the counties have no regulatory authority to close and open harvest areas. Mr. Judy explained that for the counties to be able to open and close areas there would have to be changes to the current legislation. Mr. Clark clarified that it would be possible for the counties to have authority if changes to legislation were made.

- Mr. Goldsborough asked if DNR had information regarding Maryland's return on investment like the information Mr. Wesson had shared in regards to Virginia's return on investment.
 - Mr. Judy stated that DNR has information concerning Maryland's return on investment: both from the Repletion Program years and since hatchery seed (spat on shell) has been planted. But the hatchery seed data are limited.
- Mr. Fithian stated that the most important aspect of oyster restoration is having the proper substrate. He asked why it has taken more than two months to hear about the Man o' War Shoal permit that was sent to the USACE.
 - Mr. Blazer stated that he had spoken with the USACE prior to the meeting to confirm that the permit request had been received. DNR is anticipating a letter from the USACE requesting more information.
 - Mr. Blazer explained that Virginia submits their permit applications to the Norfolk USACE while Maryland submits theirs to the Baltimore USACE. Each USACE office has their own permit processing procedures. He noted that the Maryland Department of Transportation's Port Administration (MPA) experiences shorter permit application approval times when they apply to the Baltimore USACE to dredge the shipping channels in Maryland because dredging in the channels is continuous and the permit application process is ongoing and recurring. Virginia's shell dredging permit application goes through a similar process as their application process is recurring with an application being submitted each year. Since the permits are recurring, a major study is not involved but rather an annual update is developed and submitted as part of the application process.
- Mr. Lewis stated that although some of the Commissioners view dredging buried shell as the logical way to proceed with oyster restoration, they should also be aware of the strong opposition by the public to dredging buried shell at the Man o' War Shoals.
- Senator Hershey asked if those who oppose shell dredging have offered any alternative solutions.
 - Mr. Lewis stated that the only alternative solution that has been discussed is the use of alternative substrate.
- Mr. Brown asked about the status of the other permit applications that DNR has been working on for dredging shell in other areas such as Plum Point.

- Mr. Judy stated that DNR has made progress on the permit applications but they have not yet been submitted. He stated that the next step is to work on the environmental impact support materials that must accompany these applications.
- Mr. Harrison suggested that DNR provide a permit status update at the beginning of each OAC meeting to limit the time spent discussing the permits in the future.

Some of the members of the OAC continued to discuss the status of the Man o' War shoal dredging permit application before Mr. Blazer reminded the Commissioners that there is currently nothing DNR can do besides wait and continue to follow up with USACE on the status of this permit. Mr. Blazer encouraged the Commissioners to refocus their efforts on addressing Tasks 2 and 3. He assured the Commissioners that DNR would continue to provide them with permit updates.

OAC Ranking (“Homework”) Results– Candidate Tributaries #4 and #5 (Eric Weissberger, DNR)

Presentation – Chesapeake Bay Agreement Oyster Restoration Tributary Selection

Mr. Weissberger reviewed the results from the Commissioners’ ranking of tributaries for the recommendation of the 4th and 5th oyster restoration tributaries. Mr. Weissberger presented the Commissioners’ pros and cons for the 8 sanctuaries that had received 3 or more votes in favor of selection. The 8 sanctuaries are: Manokin River, Breton Bay, St. Mary’s River, Hooper Strait, Nanticoke River, Magothy River, Severn River, and South River. Some sanctuaries also received votes against being considered for restoration. Mr. Weissberger’s presentation will be made available on the OAC website.

- Mr. Boesch asked for clarification on selecting the 4th and 5th tributaries. He stated that after reviewing the 5-Year Oyster Report, he was under the impression that Tier 1 tributaries were not eligible for delisting and Secretary Belton had requested that the Commissioners look at sanctuaries with good recruitment which may require less restoration efforts.
 - Ms. Baxter stated that the report is still in the draft stages and that Tier 1 and 2 tributaries options could potentially be delisted.
 - Mr. Blazer stated that the purpose of the homework is to narrow down the options for the 4th and 5th Chesapeake Bay Agreement tributaries (from the list of Maryland’s 51 sanctuaries) to a more manageable list. He added that now that the Commissioners have narrowed the list of options, DNR will be able to provide more information on each tributary so that the OAC members have the tools to evaluate the options for selection in greater detail.
- Ms. Sowers suggested that when DNR is gathering information on the 8 potential restoration tributaries that they put together data on the various ecological values associated with the restoration and protection of natural oyster populations in each of the 8 tributaries

- Ms. Swanson requested that DNR provide the OAC with the list of selection criteria in order to remind the members of what Secretary Belton had asked the Commissioners to look for and what to avoid.
 - Mr. Blazer cited the memo that Secretary Belton had shared at the first OAC meeting which asked them to avoid impacts to the Mid-Bay Eastern Shore area. Ms. Swanson stated that a list of guidelines and selection criteria may help narrow down the selection list further.
- Mr. Legum asked what the next selection discussions would entail now that the Commissioners have narrowed the options down to 8 proposed restoration tributaries.
 - Mr. Blazer stated that DNR would provide more detailed information regarding each of the 8 possible oyster restoration tributaries at the next meeting. The OAC would discuss these tributaries further before the OAC made their recommendation to DNR.
- Mr. Parks stated that Secretary Belton had requested that the Commissioners focus their selections away from the Eastern Shore.
 - Mr. Blazer clarified that Secretary Belton had requested that the Commissioners focus their selections away from the Mid-Bay area of the eastern shore.
- Delegate Mautz objected to the location of additional restoration tributaries in any of the 3 oyster fishery areas located on the Eastern Shore including Hooper Strait. He stated that the selection of any of the tributaries on the Eastern Shore would lack public support.
 - Mr. Blazer pointed out that the areas that Delegate Mautz had mentioned, including Hooper Strait, are already designated as oyster sanctuaries. He reminded the Commissioners that they are working to identify 2 additional restoration tributaries from a list or areas that are already designated oyster sanctuaries.
- Delegate Mautz stated that the existing 3 restoration tributaries are located near the suggested Eastern Shore sanctuaries and asked that the OAC consider other options so that Eastern Shore waterman are not further impacted.
- Delegate Mautz indicated that he is concerned about selecting 2 additional restoration tributaries when the 3 restoration tributaries that have already been established are not completely restored yet.
- Mr. Brown stated that the selection of the remaining 2 restoration tributaries should not move forward until issues related to boats running aground in Harris Creek is resolved and more information is available. Mr. Brown explained that the oyster restoration reef material that was placed in the Harris Creek sanctuary does not have 5 feet of water clearance over it in all areas (as it is supposed to have) and these shallow areas are causing some boats to run aground. Mr. Harrison added that the issue is exacerbated by the many buoys located near the shallow areas. For example, one shallow area in the sanctuary has 4 different types of buoys indicating: the boundaries of the sanctuary area, the location of a research area, the harbor speed limit, as well as danger buoys marking

the shallow areas. The number of buoys only causes further confusion. Mr. Parks added that he has personally received damage from the shallow areas in Harris Creek. He stated that he had recently paid for repairs to his boat from hitting ground and that the repairs cost more than \$4,000.

- Mr. Clark stated that he feels that it is important that the OAC members not select potential restoration tributaries solely based on Secretary Belton's criteria as each Commissioner has unique knowledge and qualifications to select possible options based on their own criteria. He reminded the Commissioners that DNR is present to represent the criteria set forth by Secretary Belton.

Public Comment

Ms. Kathy Brohawn of the Maryland Department of the Environment Public Health Section stated that there are concerns regarding the potential selection of the Severn River as a restoration tributary. She stated that shellfish harvesting in the Severn River is restricted due to the location of the Annapolis Wastewater Treatment Facility. Ms. Brohawn stated that in order to address potential public health concerns the US Food and Drug Administration (FDA) has recommended that all oysters be removed from areas under restriction due to the location of wastewater treatment facilities. She noted that the Severn River is not an ideal location for shellfish restoration because restoration efforts would be limited due to the location of the wastewater treatment facility.

Mr. Whitcomb, from Marylanders Grow Oysters (MGO), asked that the Commissioners consider areas for selection as restoration tributaries that are most conducive to oysters that would only require substrate and seed in order to be restored.

Mr. Denton, from Wicomico County, provided the Commissioners and the public in attendance with a handout of his comments. Mr. Denton stated that he felt that the Nanticoke River and the Manokin River would be great selections for restoration tributaries.

Mr. Marginnes stated that his understanding is that in Virginia some public oyster grounds receive federal funding but areas in Maryland that receive federal funding are considered sanctuaries and are not open for public harvest. Mr. Blazer stated that each state is different and Maryland has selected whole tributaries to be considered sanctuaries rather than parts of tributaries as Virginia had done. Ms. Sowers stated that the the sanctuary areas are divided at a larger scale in Maryland for enforcement purposes. Mr. Marginnes spoke about jobs that could be created by increased shell dredging and asked if the USACE considered the economic benefit of more jobs when reviewing permits. Mr. Blazer stated he was not sure if that was something the USACE considered when reviewing permits. DNR will contact the USACE to find out if the economic benefit is included in their dredging permit evaluation process.

Mr. Brown asked if DNR has the current oyster mortality rates for the Jones Shore and the lower Potomac River. Mr. Judy stated that DNR is currently conducting the fall survey and will have that information made available to the Commissioners once the survey has been completed.

Ms. Gibson, from CBF, asked if anyone could submit a proposal and if someone wanted to do so where would they find the worksheet that Mr. Judy had discussed. Mr. Blazer stated that anyone could submit a proposal and that the worksheet would be made available on the OAC website. Ms. Gibson also asked if DNR had approached MGO regarding submitting a proposal. Mr. Blazer stated that DNR had not reached out to MGO regarding submitting a proposal but that they would do so.

Mr. Newberry noted that the difference between the shell degradation rate in Maryland and Virginia (shell breaks down faster in VA) is related to the generally higher salinity levels that are found in VA toward the mouth of the Bay. He asked if the buried shell that has been dredged from the Man o' War Shoal in Maryland is less brittle than the buried shell that has been dredged from the James River. Mr. Judy explained that the brittleness of buried shell is not related to the salinity of the water in the area where it is buried. The time that it takes for shell to degrade is related to the level of salinity of the water in the location that it is placed. Mr. Judy explained that in the higher salinity portion of Maryland, regardless of where shell originated from, the shell will deteriorate faster.

Mr. Newberry asked why there is great opposition to shell dredging at the Man o' War Shoal when the plume created by dredging the shipping channels is so much worse than that of shell dredging. Mr. Newberry stated that the silt from channel dredging is more damaging than the silt from digging shell up. Mr. Newberry also stated that the areas DNR is reviewing for shell dredging have other issues; for example, the Plum Point site is a spawning area for the Atlantic sturgeon. Mr. Newberry asked the Commissioners to consider areas that need help rather than rivers that are already doing well. Mr. Newberry expressed his admiration for Virginia's ability to select tributaries that have zero impact on fisheries.

Ms. Herzog, a citizen formerly with CBF, encouraged the Commission to work to engage other stakeholders. She suggested that the Commission use a larger meeting space to allow for more public attendance and that the Commission allow more time for public comment at the conclusion of the meetings.

Next Meeting Agenda

The next OAC meeting will be held on November 14th, 2016. DNR will seek a larger venue to accommodate the large number of attendees.

Ms. Cox announced that the Chesapeake Bay Maritime Museum will host the "Oyster Futures Symposium for Maryland's Oyster Industry, Innovative Ideas from Around the Country" on Sunday, October 23, from 1pm-5pm. Information regarding the event will be sent to the OAC.

Mr. Blazer mentioned that there were some Commissioners interested in participating in an in depth review of the 5 Year Oyster Report and stated that Mr. Judy would be reaching out to them to determine a meeting time for those interested.

Mr. Harrison stated that he had noticed some errors in the 5 Year Oyster Report and he said that he had submitted his comments to Mr. Judy. Mr. Blazer encouraged the Commissioners to send any edits to Mr. Judy and reminded them that the Report is still considered a draft.

Topics for Discussion for Future Commission Meetings:

1. Identification of where restoration efforts in oyster sanctuaries would be likely or unlikely to be successful. (DNR has provided Fall Survey data, but additional discussion may be needed.)
2. The problem of boats running aground in shallow water created during oyster reef restoration. (DNR has agreed to work with watermen, USACE, and NOAA to set up a field meeting in Harris Creek to investigate and solve the high spots that are causing problems to boaters in Harris Creek.)
3. Potential future sources of shell for restoration projects.
4. Recommendations that were made by the OAC in past years.
5. Land use patterns along the Chesapeake Bay shore and how land use affects oyster population and the commercial fishing industry.
6. Economic and cultural issues related to oyster harvests and sanctuaries.
7. Preference of oyster spat for various substrates.
8. The Virginia sanctuary program. (Presentation by Virginia watermen about the Virginia program)
9. Recommendations for future practices (e.g. rotational harvesting).
10. Establishment of shucking houses in Maryland
11. Discussion in regards to the use of capital funds versus other state funds for oyster restoration.
12. Comparisons of the spat sets within the sanctuaries between the years prior to 2010 and more recent years.
13. Review and discussion of proposals submitted by the county oyster committees.
14. Receive more information regarding the selection of the 4th and 5th tributaries based on the homework completed by the Commissioners.
15. Review the status of outstanding permits.