

Meeting Summary
Oyster Advisory Commission (OAC) Meeting
National Oceanic and Atmospheric Association, Chesapeake Bay Office
Annapolis, MD
(4:00 PM – 7:00 PM)
August 1, 2012

LIST OF ATTENDEES

Commissioners Present:

Tony Chatwin, Ph.D (Chair)	National Fish and Wildlife Foundation (NFWF)
Bill Goldsborough	Chesapeake Bay Foundation (CBF)
Senator Richard Colburn	Maryland Senator, Dorchester County
Don Webster	University of Maryland Extension
Doug Lipton, Ph.D.	University of Maryland (UMD), Sea Grant Coordinator
Douglas Legum	General Partner, Real Estate Development
Delegate Tony O'Donnell	Maryland Delegate, House Minority Leader, Environmental Matters Committee
Ken Lewis, M.D.	Coastal Conservation Association (CCA)
Peyton Robertson	Director, NOAA Chesapeake Bay Office
Don Meritt, Ph.D.	University of Maryland Center for Environmental Science, Horn Point Lab (UMCES HPL)
Eric Schott, Ph.D.	University of Maryland Center for Environmental Science (UMCES)
Bill Richkus, PhD	Versar, Inc.
Kelton Clark, Ph.D.	Morgan State University (MSU)
Len Zuza	Southern Maryland Oyster Cultivation Society (SMOCS)
Claire O'Neill	U.S. Army Corps of Engineers – Baltimore District (CENAB)
Evan Thalenberg	Chesapeake Bay Savers
Kelly Cox	President, Phillips Wharf Environmental Center (PWEC)
Robbie Witt	Commercial Waterman
Delegate Shane Robinson	Maryland Delegate, Environmental Matters Committee

Commissioners Unable to Attend:

Don Boesch, Ph.D.	President, University of Maryland Center for Environmental Science (UMCES)
Ben Parks	Maryland Watermen's Association, Dorchester County
Mark Bryer	The Nature Conservancy
Dave Smith	Maryland Saltwater Sportfishermen's Association

Other Meeting Attendees Present:

Maryland Department of Natural Resources (MD DNR): Ms. Lynn Fegley, Mr. Mike Naylor, Mr. Steve Schneider, Dr. Eric Weissberger, Ms. Rebecca Thur, Mr. Mitch Tarnowski, Mr. Frank Marengi,

Oyster Recovery Partnership (ORP): Mr. Stephan Abel, Mr. Steve Allen

Coastal Conservation Association (CCA): Mr. Larry Jennings

National Oceanic and Atmospheric Administration (NOAA): Dr. Peter Bergstrom, Ms. Stephanie Westby

Maryland Geological Survey (MGS): Mr. Jeff Halka

Maryland Environmental Service (MES): Mr. Josh Chapman

Chesapeake Bay Seafood Industry Association (CBSIA): Mr. Bill Seiling

Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO): Mr. Steve McHenry

Action Items:

- MD DNR will send the list of additional analysis work required by CENAB as part of the fossil shell dredging permit application to the OAC.
- Dr. Clark will forward information on the effectiveness of mixed shell as a substrate to CENAB.

MEETING SUMMARY:

Opening Remarks/Review Objectives/Approve May and September 2011 Meeting Summaries (Tony Chatwin, Oyster Advisory Committee (OAC) Chairman)

Dr. Chatwin introduced himself as the new chair of the OAC. Dr. Chatwin has worked in the field of oceanography for several years, and during this time, has served on several panels similar to the OAC in New England, and has participated in Federal panels on protected areas and marine fisheries. Dr. Chatwin added that he would strive to build consensus within the OAC on the issues discussed. Dr. Chatwin expressed an interest in developing restoration goals for shellfish, and noted that he often approached issues from a national-level perspective.

Dr. Chatwin asked that the commissioners introduce themselves, noting that several new members had been added to the OAC.

A motion was made to approve the minutes of the previous meeting. Mr. Zuza noted that Mr. John Klein had been identified as a member of the Southern Maryland Oyster Cultivation Society (SMOCS) in the minutes, although Mr. Klein was not a member of SMOCS. The minutes were approved with this edit.

Public Comments

Mr. Chatwin opened the floor for comments from the public. There were no public comments.

Oyster Nitrogen Removal Experiments (Peter Bergstrom, NOAA)

The National Oceanic and Atmospheric Association (NOAA) is currently funding oyster denitrification studies in Virginia being done by Lisa Kellogg at the VIMS Wachapreague lab. The study is being conducted in a seaside intertidal area in Hillcrest, VA and on subtidal oysters in Onancock Creek on Chesapeake Bay, both on the Virginia Eastern shore, with assistance from The Nature Conservancy (TNC) at Hillcrest. Oysters have been placed in enclosures at varying densities with algae, with several chambers holding samples of oysters from the experimental reefs included for future analysis of nitrogen flux rates. Oysters placed in Onancock Creek experienced very high mortality in June 2012; as a result, only one set of nitrogen flux measurements has been produced for this group. However, initial data on nitrogen flux rates for oysters in the Hillcrest intertidal area have been promising, although it is too early to draw conclusions from the study. The Hillcrest study should continue through 2013; flux measurements need to be made at least four times in different seasons to estimate annual rates.

Mr. Robertson stated that the study will ultimately examine the viability of the oyster as a potential Best Management Practice (BMP) for nitrogen removal in the Bay for which nutrient credits can be awarded. If the levels of nitrogen removed by oysters at various densities can be determined, this information could be used to develop a nutrient credit system, which, if approved, would create an incentive for private investment in oyster restoration. Dr. Bergstrom noted that the studies currently underway have focused on nitrogen removal only; economic analyses will be completed in later studies. (Nutrient credits could only be earned by oyster projects that are privately funded, in watersheds that have met their TMDL nitrogen goals, so they are more likely for aquaculture than for restoration. See “Key principles” on page 6 of this document: http://www.mdnutrienttrading.com/docs/Phase%20II-A_Crdt%20Generation.pdf)

Del. O'Donnell asked if preliminary results were available. Dr. Bergstrom stated that too few results have been collected insofar to establish the sensitivity of nitrogen flux to oyster density. Dr. Richkus asked by what means oysters were able to remove nitrogen from the Bay. Dr. Bergstrom responded that nitrogen in the water and sediments taken in by oysters is released as nitrogen gas. Dr. Clark asked if NOAA expected the nitrogen removal value of oyster reefs to be affected by oyster harvest. Dr. Bergstrom confirmed that the effect of extraction is unknown, however, this issue would be addressed in a future study. Dr. Chatwin asked when results from the Hillcrest study would be available. Dr. Bergstrom stated that initial results would be reviewed by a workshop in the fall, and that data would be collected for another year following the workshop. Mr. Robertson noted that the workshop group is in need of a sediment biogeochemist, and asked members to contact him with any suggestions for the position.

Mr. Webster asked what the mortality rate was in the Onancock population. Dr. Bergstrom responded that the mortality rate was over 90%; similar mortality was seen in nearby oyster populations not involved in the study. The cause of the mortality is currently being investigated.

Dr. Clark noted that nitrogen flux data for oyster populations in aquaculture should be included as part of the investigation of nitrogen credits. Dr. Bergstrom noted that NOAA hopes to investigate the ability of oysters in floats to remove nitrogen. Dr. Chatwin agreed, and asked if aquaculture issues would be within the scope of the OAC's work, noting that the Aquaculture Coordinating Council (ACC) dealt with many of these issues. Del. O'Donnell noted that

scientific and technical issues associated with oysters were within the scope of the OAC, whereas the ACC mainly deals with the development of the aquaculture industry in Maryland. Mr. Thalenberg asked if funding for the fourth season of flux measurements had been secured. Dr. Bergstrom stated that NOAA had approved a transfer of the remaining funding it had awarded to the Onancock project to help finish the Hillcrest study, but that about \$30,000 is needed to complete the Hillcrest study. TNC may provide additional funding for it as well.

Shell Recovery and Substrate Availability Update (Mike Naylor, MD OAC)

The availability of oyster shell in Maryland is significantly lower than the demand for shell. Mr. Naylor noted that 3,180 acres of aquaculture leases have been applied for in Maryland since September 2010. Assuming that 2” of shell would be required on each lease, the demand for shell for aquaculture could be as high as 14 million bushels (bu), although the actual acreage of leases approved would likely be somewhat lower. In addition, the oyster industry has set aside \$2 million to purchase oyster shell, and \$7.5 – 10 million has been set aside to purchase oyster shell for restoration in Harris Creek. Furthermore, the Horn Point oyster hatchery requires 70,000 bu of clean oyster shell yearly.

Shucking houses have provided a reliable source of oyster shell in the past, providing 64,750 bushels of shell in the 2010-2011 season. However, the purchase of aquaculture leases by shucking houses has reduced the availability of shell; only 37,650 bu were obtained from shucking houses in the 2011-2012 season, with the vast majority (36,150 bu) coming from a single shucking house. In addition, MD DNR currently has 500,000 bu of shell stockpiled. MD DNR is also permitted to harvest previously planted shell, however, large sources of previously planted shell are scarce. MD DNR has contracted Langenfelder Marine, Inc. to harvest previously planted shell; approximately 200,000 bu of shell have been harvested in the past few months.

Mr. Naylor noted that MD DNR recently purchased a large amount of shell from Louisiana for Chesapeake Bay oyster restoration, with the assistance of funding from Mr. Douglas Legum. The shell was purchased for \$4/bu, not including \$320,000 in transportation costs; this represents a significant increase over historic shell costs of \$0.50/bu. Mr. Naylor noted that MD DNR would appreciate guidance from the OAC on reasonable costs for oyster shell. In addition, MD DNR has looked into purchasing fossil shell from Florida or Virginia, although high transportation costs are associated with each option. MD DNR is also looking into using surf clam shell as a substrate, since it has been proven that oyster spat will set down on the shell. However, a low volume (10,000 bu annually) of this shell is available. Mr. Naylor added that MD DNR was also looking into the use of alternative substrates, although the material is viewed unfavorably by watermen, who feel that the material is ineffective as a substrate and damages fishing equipment.

Dr. Chatwin asked if all users of oyster shell could accept shell from any of the sources mentioned. Mr. Naylor noted that some uses were more selective; for example, hatcheries require cleaned, shucked shell. Mr. Legum noted that the cost of oyster shell should not be considered a limiting factor; given the wide availability of oyster shell in the Gulf area and the large need for oyster shell in the Bay, MD DNR must investigate all options to obtain this shell.

Mr. Webster asked for an update on the status of MD DNR's permit application to dredge fossil shell from Man O'War shoals. Mr. Naylor responded that the approval process for the application was currently suspended; the U.S. Army Corps of Engineers (USACE), Baltimore District (CENAB) has required that MD DNR complete additional analytical work before the application can be further considered, including an analysis of alternative substrate options. Mr. Webster asked if MD DNR was moving to complete this analytical work. Mr. Naylor responded that MD DNR would complete the work requested, although a considerable amount of effort would be required, significantly delaying the progress of the permit application. Mr. Webster asked if fossil shell dredging would be more cost-effective than importing shell. Mr. Naylor noted that MD DNR has not completed a full economic analysis of fossil shell recovery, but the option appears to be less expensive. Mr. Naylor added that the permit proposes a relatively small-scale operation, providing only 5 million bushels of shell.

Del. O'Donnell noted that MD DNR submitted the permit application as part of a legislative mandate, and asked if the list of additional analytical work set by CENAB could be shared with the OAC. Mr. Naylor responded that he would send the list to the OAC. Dr. Meritt noted that the severely limited supply should necessitate less stringent requirements for obtaining fossil shell, adding that large fossil shell deposits also existed in the Choptank River and Tangier Sound. Sen. Colburn noted that a permit from CENAB would be required to dredge fossil shell anywhere in the Maryland portion of the Bay, and added that USACE, Norfolk District (CENAO) has approved the similar permits with significantly fewer requirements, and suggest that the OAC draft a letter to the State Congressional delegation on the issue. Mr. Naylor replied that high-level discussions on the issue were ongoing. Mr. Robertson suggested that MD DNR review ways Virginia secures its supply of oyster shell. Mr. Naylor agreed, noting that many existing aquaculture lease holders in Maryland purchase shell from Virginia.

Mr. Zuza noted that some oyster growers request that shells be returned when sending oysters to shucking houses. Mr. Webster pointed out that there are significant costs associated with recovering oyster shell from shucking houses. Dr. Clark stated that some Maryland shucking houses sell oyster shell to Virginia. Mr. Naylor clarified that Maryland shucking houses do sell whole oysters to Virginia, although the volume of oysters sold is very small.

Harris Creek Restoration Update (Stephanie Westby, NOAA, and Claire O'Neill, CENAB)

Ms. Westby explained that the May 2009 executive order on Chesapeake Bay restoration set a goal of restoring oyster populations in 20 tributaries by 2025. An Oyster Metrics Team has completed its work to create definitions and milestones for oyster restoration. Interagency groups in Maryland and Virginia were formed to identify tributaries and complete oyster restoration. The Virginia interagency group has selected the Lafayette, Elizabeth, and Lynnhaven rivers as the first targets for restoration, and the Maryland interagency group has identified Harris Creek and the Little Choptank River for restoration. The Maryland Interagency Workgroup has developed a blueprint for oyster restoration in Harris Creek; it is hoped that this blueprint will serve as a template for future oyster restoration projects.

The first step of the blueprint is to complete a restorable bottom analysis to identify the acreage of hard bottom suitable for oyster restoration in the tributary. The Oyster Metrics Team has defined successful restoration as recovery of 50-100% of the restorable bottom in good quality water in each tributary, with a target density of 50 oysters/ac. All of Harris Creek is considered to be good water quality, and the restorable bottom analysis identified 600 acres of restorable bottom.

The next step is to complete an oyster population survey, to identify the location and density of current oyster populations and evaluate spat sets in the tributary. The population survey and restorable bottom analysis were used to develop a draft layout for restoration, which was presented to the public at an open house. Feedback from the public was helpful to avoid restoration in areas of the river where oyster reefs could pose a navigational hazard and in areas where restoration activities would conflict with the Marylanders Grow Oysters program.

The final step in the development of the plan is to formulate assumptions, including the mortality rate and natural spat set in the area, and to develop cost estimates for restoration. The Harris Creek blueprint will target 360 acres of restorable bottom for restoration. The restoration will require 2 billion seed and 250,000 cubic yards (cy) of substrate. The restoration is expected to cost \$27 million. Work is still being done to secure the funding for the project; Maryland has contributed \$7 million for the project, USACE will contribute \$2.5 million annually for the project, and NOAA has committed \$1 million for the project.

Restoration in Harris Creek is currently underway. CENAB has built 22 acres of oyster reefs, NOAA has completed benthic mapping in the tributary, and MD DNR has provided 400 million seed oysters. CENAB is scheduled to construct additional reefs in Harris Creek in 2013. NOAA's role in the project primarily involves completing surveys to evaluate existing oyster populations, identify restoration sites, and conducting post-construction monitoring. NOAA also provided funding for the production of seed oyster. CENAB's primary role has been in reef construction. MD DNR holds the permits for restoration, and also completes some reef construction, benthic mapping, and funds some oyster seed production.

Dr. Meritt asked if the Oyster Recovery Partnership (ORP) and the University of Maryland Center for Environmental Science (UMCES) had been consulted during the development of the restoration plan. Ms. Westby responded that the ORP is a member of the interagency workgroup. Outreach to other agencies has taken place, but little interest had been expressed. Dr. Meritt noted that the Horn Point and Paynter labs should be contacted to gauge interest in partnership with the Goal Implementation Team.

Ms. O'Neill gave a brief presentation on the construction of oyster reefs in Harris Creek. CENAB has constructed approximately 481 acres of oyster reefs in Maryland since 1997. Fossil shell was used as the primary substrate until 2006; currently, mixed shell and alternative substrates are used. Post-construction monitoring is required at sites using alternative substrates, especially when slag is used as substrate. CENAB has completed outreach to Maryland fisheries management committees, including a previous presentation to the OAC, in addition to presentations to the Sport Fish Advisory Committee (SFAC) and the Tidal Fisheries Advisory Committee (TFAC). SFAC and TFAC requested that a greater proportion of mixed shell, rather

than alternative substrate, be used. In response to this, CENAB increased the amount of shell used in Harris Creek reef construction, using mixed shell to restore 16.2 acres of reef, and granite to restore 5.7 acres.

Some watermen have claimed that trace amounts of meat on the mixed shell have decreased dissolved oxygen (DO) in the areas where restoration has taken place. Although there has not yet been any scientific analysis to back up these claims, CENAB may move to use more granite in the future if DO concerns are found to be valid. Ms. Cox noted that recent water quality analysis in Harris Creek showed no loss of DO in the water. Ms. O'Neill stated that spat would be placed on the restored reef in August 2012. The next reef construction event will begin in Spring 2013. This construction will cost approximately \$2 million, and will utilize more granite substrate than mixed shell due to a lack of shell availability.

CENAB has been coordinating with the U.S. Coast Guard (USCG) to get clearance for building reefs in Harris Creek; USCG requires that no oyster reef rise to an elevation higher than 8 feet below the water surface for navigational purposes. CENAB, however, would prefer to build higher, as it increases the survival rate of oyster seed. CENAB has offered to update navigational charts as part of their restoration efforts.

Mr. Legum asked why mixed shell is not stored outside prior to placement for a period until the meat can be removed by birds and other animals. Ms. O'Neill responded that CENAB did not have a site large enough to be used for this purpose. Mr. Legum suggested that scrap granite from kitchen countertops could be used as alternative substrate. Ms. O'Neill noted that CENAB has investigated this source of granite, however large quantities of granite were rarely available from countertop manufacturers. Dr. Clark noted that a substance applied to many granite countertops produced offgassing, making the scrap unsuitable for ecological use.

Dr. Meritt questioned if oyster reef restoration could be considered a navigational obstruction, since historically, oyster reefs were able to grow higher than 8 feet below the water surface. Ms. O'Neill responded that CENAB has expressed this concern to USCG. Dr. Clark asked why mixed shell was used as a substrate. Ms. O'Neill responded that CENAB decided to use shell in response to watermen's concern that granite substrate could damage fishing gear. Mr. Thalenberg asked why harvesting was taking place in Harris Creek, since it is an oyster sanctuary. Ms. O'Neill responded that species other than oysters may be harvested in an oyster sanctuary. Mr. Clark noted that mixed shell has in the past been shown to be a less effective substrate than granite, and that its use risks introduction of foreign species into the Bay. Ms. O'Neill noted that no living shellfish were included in the mixed shell, however, the risk of introducing foreign microorganisms did exist. Ms. O'Neill asked that any studies examining the effectiveness of mixed shell as a substrate be forwarded to CENAB.

Mr. Goldsborough expressed agreement with Dr. Meritt's view that oyster reefs should not be considered navigational obstructions, and asked if natural spat set could be relied upon to seed part of the restored area, to reduce the expense of seeding the entire area. Ms. Westby noted that NOAA had reviewed historic spat sets for the area and found them to be unreliable for restoration purposes; only one significant spat set has been produced within the past six years.

However, NOAA will monitor the reef following placement to determine if natural spat sets are occurring.

Mr. Webster also agreed that oyster restoration projects should not be considered navigational obstructions, noting that historic navigational charts of the Nanticoke River showed many oyster beds rising over 8 feet below the surface. Mr. Webster asked what the criteria for restoration were. Ms. Westby responded that oyster bars were considered restored when oysters were present at a density of 50 individuals per square meter over 50% of the restorable bottom in the tributary, with a positive shell budget.

Sen. Colburn asked if CENAB had obtained a permit to complete oyster restoration in the Little Choptank River. Ms. O'Neill noted that CENAB did not yet have a permit for the Little Choptank River. Sen. Colburn asked if CENAB would take action to obtain this permit. Ms. O'Neill responded that it was unclear if CENAB would be involved in restoration in the Little Choptank River, adding that the permitting process could take up to one year of effort. Ms. Fegley noted that compliance with the National Environmental Policy Act (NEPA) was also a concern when completing restoration in the Little Choptank River, since it is inhabited by Atlantic sturgeon, which is listed as a threatened species. Sen. Colburn encouraged CENAB to seek a permit for restoration in the Little Choptank River. Ms. O'Neill noted that the blueprint for restoration in the Little Choptank River would be completed this year; requirements for NEPA compliance will be examined following its completion.

Mr. Zuza noted that Dr. Denise Breitburg, Smithsonian Environmental Research Center (SERC), had previously presented data to the OAC showing that oysters grow best in shallow waters, especially waters less than 2 m (6.6 ft) in depth. Ms. Westby noted that restoration would not be completed in waters deeper than 20 ft.

Sanctuary Monitoring Update (Eric Weissberger – MD DNR)

Dr. Weissberger reported that MD DNR surveyed several oyster sanctuaries in 2012. Additional surveys of Harris Creek and the Little Choptank River were conducted by Dr. Ken Paynter (University of Maryland) and Versar, Inc. with NOAA funding.

Dr. Weissberger presented side-scan sonar data gathered by the Maryland Geological Survey (MGS) for Harris Creek, which identifies the location of hard bottom in the tributary. In addition, Versar and Dr. Paynter took point samples to determine oyster population density in Harris Creek and the Little Choptank River; maps showing results from these studies were presented. Sampling in the St. Mary's River found many densely populated oyster bars along the shores of the river; in contrast, the Manokin River showed densely populated oyster reefs in the river mainstem. Sampling in the Upper Patuxent River, however, found very few oysters. Versar data from Harris Creek showed a positive correlation between surface shell volume and the total number of live oysters.

Del. O'Donnell noted that MD DNR had previously completed a bar cleaning effort in the Upper Patuxent River, and asked if there was any indication that these bars fared better as a result. Dr.

Weissberger responded that only one previously cleaned bar appeared healthy. Del. O'Donnell suggested that MD DNR investigate the relationship between bar cleaning and oyster success.

Discussion of draft OAC Charter (Tony Chatwin, OAC Chair)

Dr. Chatwin noted that MD DNR had developed a draft charter for the OAC to guide future group discussion, and was interested in obtaining feedback from the OAC on the charter.

Ms. Fegley briefly summarized the content of the draft charter. The charter focuses on four main issues:

- Development of a fisheries management plan (FMP) for oysters. MD DNR would like to consult the OAC to develop the plan's specifics, such as the area to be managed and goals for management of the fishery.
- Identification of sources of funding for oyster restoration.
- Discussion of the impact of land use on oyster populations.
- Discussion of issues with enforcing oyster fisheries regulations. MD DNR is currently working to implement tagging requirements and the Maritime Law Enforcement Information Network (MLEIN); MD DNR would like the OAC to advise the department on ways to improve enforcement of fisheries law.

Dr. Meritt expressed support for the development of an FMP for oysters, suggesting a format similar to the Oyster Roundtable, encouraging multiple scientists and stakeholder groups to consider all possible management options and review existing oyster policy. Ms. Fegley noted that apart from revising oyster fishery policy, MD DNR also must establish clear goals for the public fishery. Dr. Meritt suggested that watermen could help to develop these goals.

Mr. Thalenberg noted that some discussion of aquaculture and nutrient trading should be included as part of the FMP; for example, whether or not nutrient credits should be awarded for restoration using artificial substrate. Mr. Thalenberg also suggested that a representative from CENAB involved with the review of MD DNR's permit application to dredge fossil shell be invited to a future OAC meeting to discuss the application process. Mr. Thalenberg added that he would be willing to be part of a nutrient trading subgroup.

Sen. Colburn noted that additional funding must be secured for enforcement, noting that a significant number of Natural Resources Police (NRP) officers are being lost to retirement, and that the number of officers today is lower than it had been in 1950. Sen. Colburn added that MD DNR also must identify a sustainable source of natural substrate. Mr. Webster suggested that a future OAC meeting be used to discuss oyster poaching, which has been a well-documented problem on oyster sanctuaries. Mr. Webster added that representatives from NRP should be invited to attend the meeting, to discuss prosecution of poachers. Ms. Fegley noted that a discussion of penalties for natural resources violations should also be had; stiffer penalties could discourage poaching, but could also increase the number of appeals cases, resulting increased time and expense for court cases. Ms. Fegley noted that watermen recognize the costs to the State associated with poaching, and may be willing to assist in efforts to curb the problem for this reason. Sen. Colburn suggested that Mr. Jack Taylor, a former NRP captain, be contacted

about presenting to the OAC. Sen. Colburn also suggested that NRP's helicopter patrol be reinstated. Mr. Webster added that a boat tracking system could be implemented in Maryland. He noted existing technology that currently tracks up to 50,000 vessels worldwide using AIS and shows their locations, courses, and other information for web viewing and as a smart phone app.

Dr. Schott thanked MD DNR for their work to develop an OAC outward-looking charter, adding that the focus on land-use issues was an especially important discussion. Dr. Schott expressed support for the nutrient credit system, but expressed a desire for more discussion of reducing the flow of pollution into the Bay, as opposed to the oyster's ability to clean the Bay.

Mr. Robertson suggested that a clearer outline of MD DNR's expectations for the OAC be developed. Specifically, Mr. Robinson suggested that the role of aquaculture in oyster restoration be clarified, and suggested increased coordination with the ACC. Mr. Robertson also suggested that MD DNR look into using reef balls as a physical barrier to deter poaching. Mr. Robertson further suggested more outreach to political figures and community leaders to address issues with land use.

Dr. Clark stated that aquaculture must be an integral part of oyster restoration and Maryland should set up an effective aquaculture system. In addition, a strategy to increase oyster restoration by private and non-profit organizations should be developed. Dr. Clark also read a brief list of topics he wished the OAC to address, including maintaining genetic diversity in the oyster population, determining the impact of aquaculture on watermen, review of various oyster aquaculture methodologies, marketing of Maryland oysters, and research into the use of triploid oysters. Ms. Fegley noted that some of these concerns may be within the scope of the ACC, and suggested that a liaison between the OAC and the ACC help to ensure that work is not duplicated.

Mr. Legum agreed with Dr. Schott that land use should be part of the OAC's scope, but was skeptical of OAC involvement in oyster marketing. Mr. Legum added that oyster boats should be required to use tracking devices to discourage poaching.

Del. O'Donnell briefly clarified the roles of the ACC and the OAC. Del. O'Donnell stated that the ACC was set up to facilitate coordination between State agencies with oversight over aquaculture, including MD DNR, the Maryland Department of the Environment (MDE) and the Maryland Department of Health and Mental Hygiene (MD DHMH). The OAC, however, is charged with examining all aspects of oyster restoration, including aquaculture. Del. O'Donnell suggested that any questions as to the scope of the OAC and ACC be dealt with by consulting the statute creating each group. Mr. Webster added that the ACC's scope also included finfish and submerged aquatic vegetation (SAV). In addition, ACC membership is determined by legislative mandate, whereas the OAC exists at the discretion of the Secretary of Natural Resources.

Mr. Zusa noted that OAC reports and the Governor's 2010 policy announcement recommended utilizing community oyster restoration groups to raise public awareness and broaden the scope of restoration programs. However, DNR and the OAC have done little over the past three years to strengthen the involvement of community groups in restoration, apart from expanding the number of MGO programs. Mr. Zusa noted that enhancing the role of community groups in

oyster restoration could raise the public profile of oyster restoration work and build relationships between watermen and environmentalists. Mr. Zuza added that community groups could also provide a significant source of non-tax funding for oyster restoration, noting the SMOCS and two other local groups raised \$175,000 for oyster aquaculture in southern Maryland over the last four years.

Del. O'Donnell noted that oyster sanctuaries established in 2009 by MD DNR were credited as being implemented on the recommendation of the OAC; as a result, some critics of the 2009 sanctuary plan have the impression that the OAC had a hand in developing the sanctuaries, when this was not the case. Del. O'Donnell asked that MD DNR be more reserved when describing the OAC's role in future policy decisions, such as the FMP.

Dr. Richkus noted that the new OAC charter may require more than three meetings per year established during the previous OAC meeting. Dr. Richkus also suggested that MD DNR give a brief update on developments in oyster restoration at the beginning of each meeting. Mr. Webster added that a portion of each OAC meeting should be used to discuss new business. Dr. Chatwin responded that he would work with MD DNR to make changes to the meeting format to better inform the OAC of recent developments in oyster restoration.

Public Comments

Mr. Bill Seiling, Chesapeake Bay Seafood Industries Association (CBSIA) introduced himself as a regular attendee of the OAC's meetings, and suggested that the OAC include a representative from the processing sector of the oyster industry.

Meeting adjourned at 7:00