

# MARYLAND AQUACULTURE COORDINATING COUNCIL

FY 19

Natural Resources Article § 4-11 A-03.2(c)(1)(i)

Prepared by the Maryland Aquaculture Coordinating Council

November 2025



2019

# Maryland Aquaculture Coordinating Council

*Annual Report 2019*

Situation and Outlook report on Council activities with recommendations for advancing Maryland aquaculture. Presented to the Governor of Maryland, Chair of the Senate Education, Health and Environmental Affairs Committee and Chair of the House Environment and Transportation Committee

*Cover: Orchard Point Oyster Company  
owner Scott Budden (left) demonstrates gear  
he uses to raise high quality oysters for  
restaurants and raw bars to seventh grade  
students in Queen Anne's County at their  
annual Agriculture Awareness Days program*



Maryland  
Aquaculture Coordinating Council

Tawes State Office Building  
580 Taylor Avenue, E-4  
Annapolis, Maryland 21401

TO: The Honorable Larry Hogan, Governor  
The Honorable Paul Pinsky, Chairman, Senate Education, Health and Environmental Affairs  
Committee  
The Honorable Kumar Barve, Chairman, House Environment and Transportation Committee

FROM: JD Blackwell, Chairman  
Maryland Aquaculture Coordinating Council

DATE: December 31, 2019

SUBJECT: ANNUAL REPORT OF THE AQUACULTURE COORDINATING COUNCIL

I am pleased to present the annual report of the Maryland Aquaculture Coordinating Council for 2019. The Council has provided leadership in developing an aquaculture industry that has brought Maryland national recognition. The dedication of our Council members to growth in this sustainable industry continues, and we believe that aquaculture provides significant benefits to our economy and the environment.

The Coordinating Council has fulfilled many of the tasks assigned to it by the General Assembly since it was created in 2005. We have recommended changes to regulations that are helping this industry rebuild our depleted shellfish resources while creating the opportunity for an increasing number of shellfish aquaculture businesses to become established in our State. The Council has a designated broad-based membership that includes representatives of state agencies, the General Assembly, the University of Maryland, Farm Bureau, Oyster Recovery Partnership and industry and has provided a model for progress.

We see opportunity to grow new businesses while encouraging traditional watermen to transition to aquaculture to assure their future. Their abilities are well suited to aquaculture production and many have already entered this industry. We look forward to their contributions in expanding production that will provide for expanding economic opportunities and helping to improve water quality and create the habitat that is needed to foster a healthy Chesapeake Bay.

There are still challenges to overcome for aquaculture to reach its full potential in our State. Therefore, we submit our annual recommendations for your consideration and look forward to continuing the strong collaboration with our elected leaders that has helped us forge ahead.

The Council is pleased to provide briefings if additional information is needed as we work towards developing the recommendations presented in this report. I wish to thank you for the strong support you have provided to the aquaculture industry, as well your foresight and confidence in creating the Maryland Aquaculture Coordinating Council.

## **Partners Working Together for Aquaculture Development**

### **Maryland Agencies**

*Department of Health*

*Department of Commerce*

*Department of Agriculture*

*Department of the Environment*

*Department of Natural Resources*

*Natural Resources Police*

*MD Agriculture & Resource Based Industries Development Corporation*

### **University System of Maryland**

*University of Maryland*

*University of Maryland Extension*

*University of Maryland Center for Environmental Science*

### **Federal Agencies**

*USDA Natural Resource Conservation Service*

*US Army Corps of Engineers, Baltimore District*

*National Oceanic & Atmospheric Administration*

### **Non-Governmental Organizations**

*Maryland Farm Bureau*

*Oyster Recovery Partnership*

***For ECONOMIC GROWTH...***

***For INCREASED EMPLOYMENT...***

***For Aiding our ENVIRONMENT***



# Executive Summary

The Aquaculture Coordinating Council (ACC) was created by the Maryland General Assembly in 2005 and charged with assisting the development of commercial aquafarming by studying and making recommendations on changes required to attract investment and promote economic and employment growth in the industry. The Council provides a forum for agencies, institutions, political leaders and businesses to resolve issues while providing strong and diverse expertise to meet its legislative mandate to “advance Maryland aquaculture.”

Support for the development of this economically and environmentally beneficial industry has resulted in nearly 7,500 acres in active shellfish production. Watermen and entrepreneurs have entered the industry, bringing advances in production techniques, business development and marketing. These have resulted in new companies, new brands, expanded sales and the creation of support industries for equipment fabrication, vessel construction and supplies. Farmers continue to expand production and invest in planting, raising and harvesting millions of shellfish annually.

The Council has broad and diverse expertise on aquaculture issues that aids in creating solutions for identified needs. The following issues have been identified as current impediments and must be addressed to support continued growth and opportunity for aquaculture in our State. We respectfully submit the following for consideration:

## Issues

**I. Water Quality Monitoring:** The Maryland Department of Environment (MDE) is responsible for carrying out federal (Title 21 CFR Part 123) and state (Natural Resources Article 4-742 Maryland Annotated Code) requirements mandating bacteriological monitoring and investigations into pollution sources to ensure that shellfish are harvested from unpolluted waters. MDE conducts intensive shoreline surveys to identify and mitigate pollution sources that can affect shellfish harvesting waters. Continued expansion of the aquaculture industry has resulted in year-round harvests that are increasing the number of monitoring stations needed to ensure adequate spatial coverage to protect public health. This has increased personnel hours for shoreline surveys, and equipment and operational resource needs to support monitoring and data collection.

**II. Aquaculture Innovation Funding:** Legislation creating the Aquaculture Coordinating Council provided a series of tasks for it to carry out. Item ii directed the Council to “*Establish and monitor a grant program for the implementation of appropriate projects that support the economic health of the state aquaculture industry.*” To date, this charge has not been

implemented because funds have not been provided. With the growth of the shellfish aquaculture industry, new equipment and methods have been brought to Maryland for the production of quality oysters and hard clams with strong growth being shown during the past five years. However, those in business are often unable to allocate funds to develop innovative ideas for applied research that could result in more efficient gear, higher output, lower input costs and identifying new markets. Providing funds for this purpose would keep Maryland producers at the forefront of the industry nationally.

**III. Protection of Property:** The Natural Resources Police (NRP) provides a strong presence to protect our marine resources. Their efforts to protect natural shellfish stocks and assist private growers to keep crops safe and secure are essential to continued shellfish aquaculture development. Although NRP is not currently operating at its authorized staffing level, the recent graduation of two academy classes has helped to fill existing vacancies.



*Maryland Natural Resources Police provide protection for farm raised and natural shellfish grounds on land, water and in the air*

It is critical for the NRP to be able to respond quickly and effectively to aquaculture problems and theft has repeatedly been identified as an issue of concern in industry surveys. Support for NRP assets is required if Maryland is going to meet the challenge of attracting private capital to invest and expand production of aquaculture crops to meet growing demand for quality seafood. The Council has annually urged state leaders to provide additional funds for law enforcement officers to keep a strong and visible force on the waters of the State. We do so again to urge that new assets are provided to this vital force for increased protection of public resources and private property.



# Maryland Aquaculture Coordinating Council

## Annual Report 2019

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### The Council - A Legislative History

The Aquaculture Coordinating Council has a specified membership that includes Maryland agencies involved in the permitting, regulating, policing and advancing the industry. It includes three representatives of the University System of Maryland, appointed members of both the aquaculture and commercial fishing industries, and non-governmental organizations. The Council is charged by the General Assembly with a series of designated tasks that are assigned to further the development of this industry through all of its segments - production of finfish, shellfish and aquatic plants. Among the tasks assigned to the Council are to:

- *Develop Best Management Practices on or before December 31, 2006;*
- *Investigate and, to extent feasible, enhance the area of state waters available to private lease for aquaculture and the seafood industries;*
- *Support the aquaculture industry in its efforts to implement innovative procedures and to comply with associated regulations;*
- *Provide for the establishment of Aquaculture Enterprise Zones in the Chesapeake and coastal bays;*
- *Formulate and make proposals to the Governor, and the Senate and House committees responsible for the Environment, for advancing Maryland aquaculture, including recommendations for a fee structure to reduce State expenditures on aquaculture programs;*
- *Establish and monitor a grant program for the implementation of appropriate projects that support the economic health of the State aquaculture industry;*
- *Conduct applied studies of projects and products that will expand the aquaculture industry in the State;*
- *Conduct market tests to determine acceptability and potential demand for new aquaculture products;*
- *Implement pilot projects and small commercial demonstrations to resolve outstanding quality of production issues and to educate industry representatives, regulators, and other partners;*
- *Enhance the awareness of innovative aquaculture products and programs among commercial buyers and the general public; and*
- *Regularly review State regulations impacting aquaculture and make recommendations to the Aquaculture Review Board regarding any necessary or advisable regulatory changes.*

*The Coordinating Council  
is directed to provide policy  
recommendations to  
“advance Maryland  
aquaculture”*

## Engaging our Citizens

The Coordinating Council schedules time for public input at regular and workgroup meetings and has developed procedures to assure non-Council expertise in all investigations and proceedings. The Council has an e-mail list that is used to notify interested parties about general and special meetings, as well as those of workgroups. Since initiating this service, attendance has noticeably increased with regular and broad representation from growers and other stakeholder groups.

The Council uses contact with citizens as an opportunity to identify potential new members who may be interested in serving. Maryland law requires three aquaculture industry representatives and three Tidal Fish License (TFL) holders to be appointed to the Council. These members serve staggered terms and may be appointed for two consecutive terms before being required to take at least one year off before becoming eligible for appointment again. Since its formation, the Council has been fortunate to have had superior representation from those who have been in the appointed categories, with several being elected to leadership roles. Four members (two in each Industry/TFL category) rotate from the Council each year. The building of a strong shellfish aquaculture community has created opportunities to identify new growers for Council appointments. Members help to identify problems and areas of concern and work together to strengthen Maryland aquaculture to create **expanded economic growth and increased employment while aiding the environment.**

## Status of Maryland Shellfish Aquaculture

Through legislation which was passed unanimously by the 2009 General Assembly, Maryland lease laws were revised. This provided opportunities to attract private capital and to rebuild the depleted oyster resource. Incorporating the new program in a statewide Oyster Management Plan, applications were accepted beginning in September 2010. The following year, due to expanding interest in applications for water column leases, legislation centralized aquaculture authority in the Maryland Department of Natural Resources where the Aquaculture and Industry Enhancement Division provides coordination between DNR and the US Army Corps of Engineers (USACE), Baltimore District to provide lease applicants with a ‘one-stop’ shop to handle required legal documentation to get into business.



The following tables illustrate the strong progress that has been made to increase shellfish aquaculture leasing from September, 2010, when the new leasing program was implemented, to the present. Through December 2019, the Maryland shellfish aquaculture industry included 457 shellfish leases covering 7,306 acres. Of these, 356 are Submerged Land Leases (SLL) or traditional spat on shell bottom leases, which currently encompass 6,739 acres. Water Column Leases (WC), which utilize innovative containment gear such as cages or floats, now cover 567 acres. In 2019, DNR permitted 551 distinct individuals to work on these leases.

## Shellfish Aquaculture Lease Summary

| Type                 | Acres          | Number     |
|----------------------|----------------|------------|
| Submerged Land Lease | 6,739.2        | 356        |
| Water Column Lease   | 567.2          | 101        |
| <b>TOTAL</b>         | <b>7,306.4</b> | <b>457</b> |

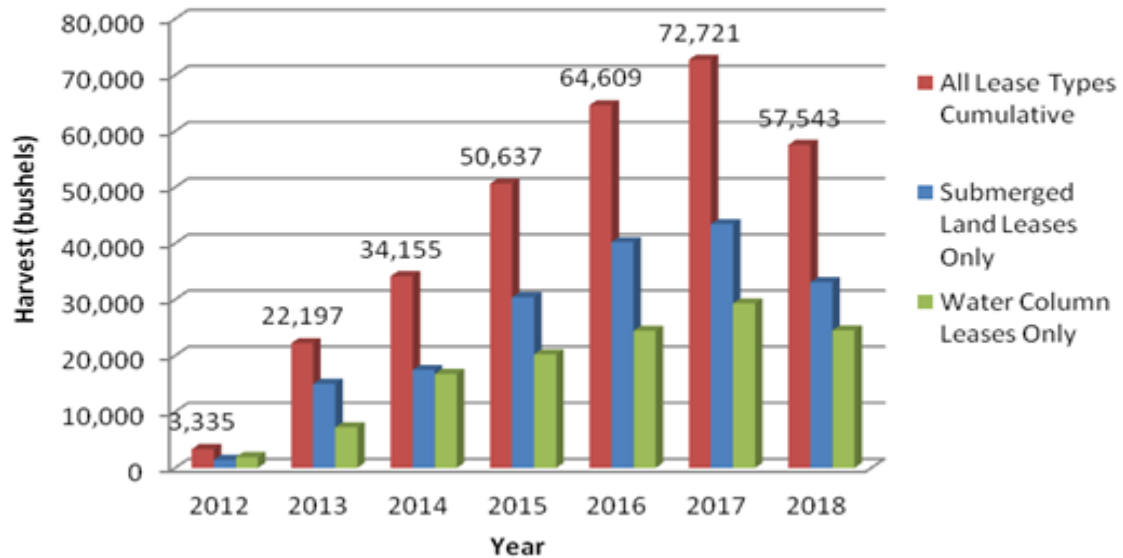
| LEASE ACREAGE BY TYPE AND COUNTY |              |              |             |                |             |              |              |                |              |                |             |                |
|----------------------------------|--------------|--------------|-------------|----------------|-------------|--------------|--------------|----------------|--------------|----------------|-------------|----------------|
| Type                             | AA           | CA           | CH          | DO             | KE          | QA           | SM           | SO             | TA           | WI             | WO          | Total          |
| SLL                              | 370          | 129.5        | 49.8        | 2,529.8        | 44.8        | 25.2         | 694.7        | 1052.8         | 699.9        | 1,127.4        | 15.2        | 6,739.2        |
| WC                               | 12.2         | 35.8         | 7.9         | 199.5          | 4.9         | 3.71         | 197.9        | 19.7           | 35.6         | 0              | 50          | 567.2          |
| <b>Total</b>                     | <b>382.2</b> | <b>165.3</b> | <b>57.7</b> | <b>2,729.3</b> | <b>49.7</b> | <b>28.91</b> | <b>892.6</b> | <b>1,072.5</b> | <b>735.5</b> | <b>1,127.4</b> | <b>65.2</b> | <b>7,306.4</b> |

| LEASE NUMBER BY TYPE AND COUNTY |           |           |          |            |          |          |            |           |           |           |           |            |
|---------------------------------|-----------|-----------|----------|------------|----------|----------|------------|-----------|-----------|-----------|-----------|------------|
| Type                            | AA        | CA        | CH       | DO         | KE       | QA       | SM         | SO        | TA        | WI        | WO        | Total      |
| SLL                             | 24        | 12        | 3        | 85         | 1        | 3        | 77         | 37        | 65        | 47        | 2         | 356        |
| WC                              | 4         | 6         | 1        | 28         | 1        | 4        | 31         | 5         | 9         | 0         | 12        | 101        |
| <b>Total</b>                    | <b>28</b> | <b>18</b> | <b>4</b> | <b>113</b> | <b>2</b> | <b>7</b> | <b>108</b> | <b>42</b> | <b>74</b> | <b>47</b> | <b>14</b> | <b>457</b> |

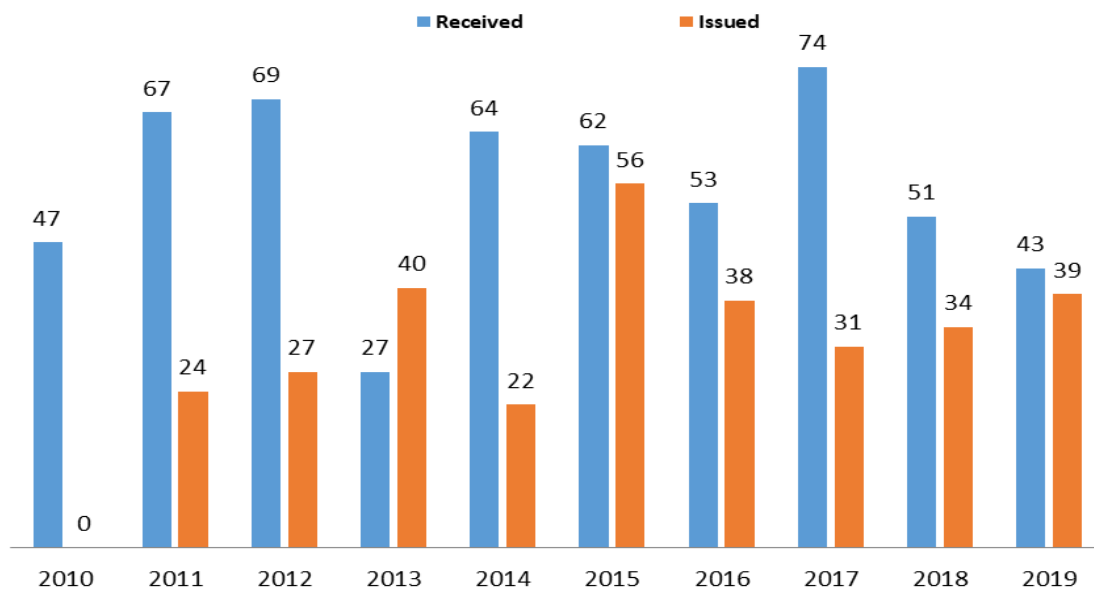
**Oyster Lease Harvests:** The annual harvests from shellfish leases increased annually over the period 2012 – 2017. In 2018, oyster farmers experienced poor growing conditions and reduced salinity associated with excessive amounts of rainfall received throughout most of that year throughout the Chesapeake Bay watershed. Consequently, there was poor growth and a decline in the total harvest from shellfish leases reported by both water column and submerged land leaseholders in 2018. These poor conditions persisted through the first half of 2019 with output from regional hatcheries being greatly affected. This impacted the ability of growers to obtain oyster larvae and seed needed for planting on their leases. Despite a slight rebound in early fall, the total oyster harvest reported from leaseholders in 2019 is similar to what was reported in 2018, at approximately 55,000 bushels\*.

\*Not final at time of report.

## Annual Farm-Raised Oyster Harvest in Maryland 2012-2018



## Commercial Shellfish Lease Applications Received and Issued by State of Maryland Since September 2010 (by Calendar Year)



## Support Programs

### *Maryland Agricultural and Resource Based Industry Development Corporation*

Since the creation of the Maryland Shellfish Aquaculture Financing Fund in 2011, the *Maryland Agricultural and Resource Based Industry Development Corporation* (MARBIDCO) has



approved 66 loans to 40 borrowers totaling \$3,780,963, for projects in ten tidewater counties. 28 were for Submerged Land Leases, 31 for Water Column (cage or float) Leases, and seven were a combination of both bottom and water column projects. Fifty-seven loans were made to commercial watermen (TFL holders) and fifty-nine loans are fully drawn. Borrowers in good standing have an opportunity for forgiveness of 40% (up to maximum of \$100,000) or 25% (\$100,000 to \$300,000) of the loan principal balance amount.

In 2012, a special finance program was established for commercial watermen to develop remote setting systems to produce seed oysters. MARBIDCO has approved three loans in this program totaling \$90,000, with both being fully drawn. Growers who have taken advantage of this program have used their systems to produce seed oysters for their leased grounds and have also sold products to the State to place on public harvest grounds to keep that part of the oyster industry viable.

### *Education and Training*

University of Maryland Extension (UME) has conducted training programs for shellfish aquaculture. Funding and support have been provided by NOAA, the Philip E. and Carole R. Ratcliffe Foundation and the Oyster Recovery Partnership (ORP). Training programs include workshops, field demonstration and short courses with notification sent to all leaseholders and posted on UME's web and Facebook pages. Support materials including technical manuals and spreadsheets are provided in print and electronic forms. Oyster Hatchery Short Courses have been held at the state-of-the-art UMCES Horn Point Laboratory (HPL) with seasonal training provided through intern programs. The HPL hatchery is one of the largest for the eastern oyster and produces oysters for restoration and commercial development while conducting research

into improved culture methods.

The Remote Setting Training program began in 2011 to provide setting systems in the Bay area.



*Cages with aged oyster shell ready to go into the setting tanks at Metompink Seafood Company in Crisfield for new spat production*

Growers use the tanks to produce low cost spat on shell seed oysters for planting bottom leases. Currently the program operates 38 systems in 6 locations around the Chesapeake Bay area. Growers reserve systems for two-week periods from June through August, with larvae, instruction and assessment of setting rates provided by hatchery technicians. Results are mailed to participants for filing with their

required activity report at the end of the year.

Weeklong Oyster Hatchery Short Courses have been periodically held at the HPL hatchery with lectures and hands-on work. Summer interns annually get training in hatchery operations. At the hatchery, students handle oysters from conditioning through spawning and larval care, while learning phytoplankton production and business operations.

Extension programs are developed using surveys and needs assessments developed with industry input. Planning is done by the Extension's Seafood Production Action Team which includes representatives from state agencies, UM components and non-governmental organizations. Programs are offered in *Production Systems*, *Business Management* and *Seafood Technology* and include:

#### **Production Systems**

- *Seminars at the East Coast Commercial Fishermen's and Aquaculture Trade Expo*
- *Remote Setting Training Program - workshop, statewide training and local operations*
- *Cultchless Seed Production and Nursery Operations*
- *Water Column Aquaculture Gear Field Demonstration*
- *Data Collection and Analysis for Decision Making in Shellfish Aquaculture*
- *Oyster Disease Identification and Management*
- *Genetic Lines and Triploidy: Tools for Effective Aquaculture*
- *Understanding Sidescan Sonar Charting of Your Lease*
- *Shellfish Pest Identification and Predator Control*

#### **Business Management**

- *Managing Risk in Shellfish Aquaculture*
- *Internet and Social Media Marketing for Your Business*
- *Tax Management for Shellfish Growers*

- *Marketing and Sales for Shellfish Growers*
- *Business Planning for Shellfish Grower*

### **Seafood Technology**

- *Analysis of Microbial Contaminants in Seafood*
- *Hazard Analysis Critical Control Point (HACCP) Training for Shellfish Growers*
- *Seafood HACCP Segment II*

In 2016, a Demonstration Oyster Farm was installed at Horn Point that contains gear used in water column leases for bottom, midwater and surface culture. Similar to an underwater Agricultural Experiment Station, it allows faculty to collect data on farming operations, conduct applied research and deliver educational programs using real world gear and situations. Growers view systems to determine which would best fit their location and production strategy. Faculty collect data on cost and labor to populate spreadsheets developed to create precise business plans.

### **Issues and Recommendations**

The Council identified issues affecting advancement of Maryland aquaculture and provides recommendations developed through their bi-monthly meetings. For 2019, the Council respectfully submits the following issues and recommendations for consideration:

#### **I. Water Quality Monitoring**

**Issue:** The Maryland Department of Environment (MDE) is responsible for carrying out federal (Title 21 CFR Part 123) and state (Natural Resources Article 4-742 Maryland Annotated Code) requirements mandating bacteriological monitoring and investigations into pollution sources to ensure that shellfish are harvested from unpolluted waters. In addition, MDE conducts intensive shoreline surveys to identify and mitigate pollution sources that may impact shellfish harvesting waters. Continued expansion of the oyster aquaculture industry has resulted in year-round oyster harvest that is increasing the number of monitoring stations needed to ensure adequate spatial coverage to protect public health. This has also increased personnel hours for shoreline surveys, and equipment and operational resource needs to support monitoring and data collection.



MDE's Compliance Division has tracked the hours devoted to aquaculture. In 2017, the number of personnel hours devoted specifically to aquaculture was 1,323 - about the same as the previous year. In addition, 13 new monitoring stations were added specifically for aquaculture, up from 6 stations that were added in 2016.

There is some uncertainty for future funding with potential cuts to the US Environmental Protection Agency's (EPA) funding for state monitoring programs, which includes shellfish,

frequently being proposed. While oversight is provided by the US Food & Drug Administration (FDA), there is no funding provided for meeting their requirements. Over time, EPA funding has supported field monitoring programs because of the water quality and public health obligations required under the federal Clean Water Act. If a proposed action successfully cuts EPA funds, it will have a significant impact on MDE's monitoring programs, with heavy impact felt by Maryland's expanding aquaculture industry.

**Recommendation:** *Continue to track federal funding for MDE's shellfish programs and work to identify alternate funding sources to ensure that any future funding gaps can be addressed. These programs have been effective in assuring that Maryland's shellfish industry remains competitive nationally while maintaining its excellent reputation for safe and wholesome products. It is critical for Maryland's economic and public health needs to support MDE shellfish monitoring programs.*

## II. Aquaculture Innovation Fund

**Issue:** Legislation creating the Aquaculture Coordinating Council provided eleven charges for the Council. Item ii directed the Council to “*Establish and monitor a grant program for the implementation of appropriate projects that support the economic health of the State aquaculture industry.*” To date, this charge has not been implemented because funds have



*New types of innovative culture equipment are being developed and assessed for growing oysters in our local waters*

not been provided. With the growth of the shellfish aquaculture industry, new equipment and methods have been brought to Maryland for the production of quality products with steady growth shown during the past seven years. However, those in business are often unable to allocate funds to develop innovative ideas for applied research that could result in more efficient gear, higher output, lower input costs and

identification of new markets. Providing funds for this purpose would keep Maryland producers at the forefront of the industry nationally.

**Recommendation:** *The Council's vision is for an Aquaculture Innovation Fund to be funded at \$100,000 annually and overseen by an Advisory Board comprised of seven individuals representing state agencies, the University of Maryland and industry. Growers would be required to be actively engaged in the Maryland seafood and aquaculture industries. Growers would submit proposals to the Board at specified times of the year. Funds would not be allowed for the purchase of vessels, vehicles or payment of salaries. The intent of the*

*program is for those in production to pursue improvements in operations without having to incur cost and risk during that development. It would fund supplies, develop equipment and provide support for innovative products or methods for aquaculture commodities.*

*Proposals would be reviewed by an Advisory Board with external reviews requested if required for additional input. At the conclusion of a project, a report would be required from the recipient which would be in the public domain for information transfer across a spectrum of users. Participants would also be encouraged to provide information on their projects through UM Extension programs.*

*To create this program, the Department of Natural Resources is asked to evaluate potential funding sources for the next fiscal year.*

### **III. Protection of Property**

**Issue:** The Natural Resources Police (NRP) provides a strong presence to protect our marine resources. Their efforts to protect natural shellfish stocks and assist private growers to keep crops safe and secure are essential to continued shellfish aquaculture development. Although NRP is not currently operating at its authorized staffing level, the recent graduation of two academy classes has helped to fill existing vacancies.



It is critical for the NRP to be able to respond quickly and effectively to aquaculture problems and theft has continues to be identified as an issue of concern in industry surveys.

Support for NRP assets is required if Maryland is going to meet the challenge of attracting private capital to invest and expand production of aquaculture crops to meet the growing demand for quality seafood. The Council has annually urged elected leaders to provide additional funds for law enforcement officers to keep this a strong and visible force on the waters of the State and wishes to stress the importance at this time.

*Natural Resources Police presence has long been demonstrated as a high priority need to protect the private property of shellfish growers*

**Recommendation:** *Increase support for Natural Resources Police to deter theft of public and private shellfish stocks by providing the force with expanded personnel and funds for enhanced technological equipment that can multiply the efforts of duty personnel for*

*enforcement activities. Funding should be allocated to support the training and hiring of new officers, the expansion of Maryland Law enforcement Information Network (MLEIN) and the aviation unit which are all essential tools needed for effective surveillance, patrols and enforcement actions which will help to protect investments in shellfish aquaculture by leaseholders.*

## **Aquaculture Coordinating Council Summary**

The Council requests that respective state agencies consider the recommendations in this report when formulating budget requests and urges the Governor and General Assembly to support them through the respective legislative sessions. The Council looks forward to continuing the development of Maryland aquaculture - for **ECONOMIC GROWTH**, for **INCREASED EMPLOYMENT** and for the **ENVIRONMENTAL BENEFITS** that derive from a **HEALTHY AND THRIVING AQUACULTURE INDUSTRY**.



**ECONOMY....**

**EMPLOYMENT....**

**ENVIRONMENT**



*Members of the Maryland Aquaculture Coordinating Council*

Mr. J.D. Blackwell, Chairman, 38° North Oysters, LLC, Aquaculture Industry

Dr. Jeffrey Cornwell, Vice-chairman, UMD Center for Environmental Science

Senator Katherine Klausmeier, Maryland Senate

Delegate Johnny Mautz, Maryland House of Delegates

Mr. Eric Wisner, Aquaculture Industry

Mr. William Cox, Aquaculture Industry

Mr. Jim Mullin, Tidal Fish License

Mr. Rob Witt, Tidal Fish License

Mr. Moochie Gilmer, Tidal Fish License

Lt. Catherine Medellin, Maryland Natural Resources Police

Mr. Stone Slade, Maryland Department of Agriculture

Mr. Ewing McDowell, Maryland Department of Commerce

Ms. Kathy Brohawn, Maryland Department of the Environment

Ms. Kim Coulbourne, Maryland Department of Health

Mr. Karl Roscher, Maryland Department of Natural Resources

Dr. Reginal Harrell, University of Maryland

Mr. Donald Webster, University of Maryland Extension

Mr. Colby Ferguson, Maryland Farm Bureau

Mr. Ward Slacum, Oyster Recovery Partnership

*For additional information, please*

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