



## **Marine Fisheries Shellfish Advisory Panel Meeting Summary**

**November 17, 2016  
Hanover Public Library, Hanover, MA**

### **Attendance**

*Panel Members:* Mike Trupiano, Dave Sargent, Chris Southwood, Bill Doyle, Chris Sherman, Alex Hay, Steve Kirk, Ron Bergstrom, Allen Rencurrel, Monte Rome, Paul Bagnall, Diane Murphy, Bob Wallace

*Marine Fisheries Staff:* Dan McKiernan, Mike Hickey, Jeff Kennedy, Tom Shields, Dave Roach, Chrissy Petitpas, Chris Schillaci, Diane Regan, Jack Schwartz, Story Reed, Kevin Creighton, Anna Webb, Jared Silva, Nichola Meserve

*Other:* Rob Doane (Aquaculture Research Corp.), Melissa Sanderson (Cape Cod Commercial Fishermen's Alliance), David Kelly (commercial dredge harvester), Alexander Cestaro (commercial dredge harvester)

### **Call to Order & Introductions**

Deputy Director Daniel McKiernan called the meeting to order. He introduced two new panel members: Steve Kirk of The Nature Conservancy, who replaced Jon Kachmar; and Bill Doyle, newly added to serve as a liaison between the Panel and the Marine Fisheries Advisory Commission, on which he also serves. Dan reviewed the Division's rationale for forming the Panel two years ago, and noted that the last meeting had been a year ago in November 2015.

### **ISSC Executive Board Fall Meeting**

Shellfish Program Manager Mike Hickey provided an overview of some of the key issues discussed during the Interstate Shellfish Sanitation Conference (ISSC) Executive Board meeting that occurred November 2–3 in Atlantic, GA. The Executive Board meets twice a year, is the entity that governs the functioning of the ISSC, and has the authority to make decisions that are good until the next ISSC Biennial Meeting. It is composed of 36 people, with 18 voting members including industry representatives, state agency representatives, and federal agency representatives (NOAA, EPA, FDA). Mike serves as the Northeast Regional Agency Representative. Lori Howell (Spinney Creek Shellfish, Eliot ME) is the Northeast Regional Industry Representative.

There were over 50 major items on the agenda, with multiple subsets of items. While the meeting minutes were still under development, Mike indicated he would distribute them to anyone interested when available. Many agenda items had to do with internal operations and policies, funding, committee appointment, committee reports, reports from NOAA and other agencies, etc. Mike provided more details on some key issues.

### **"Old business":**

- The US/EU Equivalency Agreement is still awaiting approval for publishing. Mike was uncertain approval would be received with the new Presidential administration. He suspected that what was holding it up was the exclusion of certain entities that had wanted to be included.
- Massachusetts and Washington both received ISSC funding to study pathogenic *Vibrio* strains.

- The Illness Review Committee is working to finalize 2016's Vibrio case count. Some states were concerned about the accuracy of counts being reported for them. There is an ongoing discussion about whether the Committee's report should be made more public.
- The Vibrio risk calculators have been reworked, and are expected to be available in January. Upon a question from Chris Sherman, Mike indicated that they will remain optional for states to use to produce risk analysis. The ISSC is also encouraging NOAA and FDA to help states develop vibrio forecast models.
- The Executive Board is expected to take action, likely prior to the Vibrio season, on standardized guidance for how states develop shellfish volume production and utilization data.
- The ISSC and FDA are considering mechanisms to speed up the process of illness reporting. The delay is in getting data from firms receiving recalled product. In response to a question from Chris Sherman, Mike indicated that the use of press would not be considered, as it is not quick enough and is harmful to the industry.
- A new version of the *NSSP Guide* was just released. A revised version is expected by June 1 that will correct some errors.

"New business":

- The Executive Board approved a suggestion that it publish a quick summary of changes in the *NSSP Guide*.
- In response to the Food Safety and Modernization Act, the FDA is developing a new rule that will require permitting and inspection of all vehicles transporting food, including common carriers (which have been exempt for years). However, there could be an exemption for shellfish where states already inspect and permit vehicles. In response to Monte Rome's request for further clarification, Mike added that he thought states would need to permit common carriers in order to have the exemption for shellfish, although this was unclear because the rule was still under development. He stressed that the rule is not an ISSC decision, but an FDA requirement. Regarding a separate transportation variance that Monte has been pursuing, Mike suggested he deal directly with the Director of DPH to speed it along.
- Updates to the HACCP training modules are nearly complete. Outreach to states is expected soon.
- The Executive Board agreed with the recall and re-submergence procedures used by Massachusetts in response to the Norovirus illness outbreak in Wellfleet. The FDA had had some concerns about the process. An announcement from the Executive Board is expected.
- Following controversy created by their having awarded over \$700,000 to the Association of Food and Drug Officials which should have been awarded to specific programs, the FDA agreed to create an advisory committee for how such awards are given in the future. Unfortunately, the awarding can't be shifted for this year.

Mike concluded with the schedule for future meetings. The next Executive Board meeting would occur in April 2017 in Myrtle Beach, SC. The next ISSC Biennial Meeting will also occur in Myrtle Beach, in October 2017. Dan asked Mike to consider whether it was best to convene the Advisory Panel before the Biennial Meeting to collect input on proposals or after the Biennial Meeting to report on outcomes.

**Recent Norovirus and Biotoxin Shellfish Closures**

Dan remarked that 2016 would be a memorable year for many in the industry as well as at *Marine Fisheries* due to the Norovirus illness outbreak in Wellfleet and the potentially toxic phytoplankton bloom of *Pseudonitzschia sp.* in south shore waters. The Shellfish Program was exceptionally busy during September and October dealing with these two issues. Dan and Diane Murphy commended the Shellfish Program staff for their monitoring and outreach efforts.

### Norovirus Illness Outbreak

Aquaculture Specialist Chris Schillaci gave a presentation on the Norovirus illness outbreak and the Division's response. He started by reminding the Panel that the Division has a growing area classification system to try to identify and account for pollution sources. (A recent FDA review of our classification program was not triggered by the outbreak, but was prescheduled.) Wellfleet is very dependent on shellfish harvest, with about 200 commercial shellfish permits issued, including 71 aquaculturists.

On October 13, the Division received notification from DPH of over 75 cases of illnesses with Norovirus-like symptoms occurring October 9–13, with the consumption of raw shellfish from parts of Wellfleet Harbor as the common link. The Division immediately closed all of Wellfleet Harbor (CCB 11, 12, 13, and 14 because these areas are hydrographically connected) to the harvest of shellfish, with the exception of bay and sea scallop adductor muscles and carnivorous snails.

DPH also instituted a recall on October 13 for all product dating back to September 26. However, primary buyers were allowed to return cultured product only stored at their facility to aquaculturists for re-submergence under strict Division supervision (all other product in the supply chain not remaining with the original dealer was destroyed). It was the state's tagging and recording procedures established under the Vibrio Control Plan that made this re-submergence possible. The recalled product that was returned to licensed sites included about 50,000 hard shell clams and 165,000 oysters from 47 growers and 13 dealers. The product had to be logged, tagged, segregated, and stored until further notice by the Division.

In addition to closing the area, the Division's requirements under the National Shellfish Sanitation Program for dealing with such an outbreak included verifying that the area was properly classified; determining that the contamination event no longer exists; keeping the area closed for a minimum of 21 days; and developing written reports summarizing the findings and actions taken.

The Division's assessment confirmed the sampling and management plans were up to date, and ruled out any new sources of contamination. The Division determined that the event was likely the result of a discrete, temporary introduction of Norovirus into the waters of Wellfleet Harbor, possibly introduced by the overboard discharge of infected waste or bodily fluids.

The Division had held numerous discussions with FDA to agree upon a re-opening date, including that for the re-submerged product. FDA was particularly reticent about the latter because re-submergence of shellfish associated with Norovirus outbreaks is rare. Norovirus purge rates had to be assessed, taking into consideration water temperature and tidal exposure in the area. In the end, the area was reopened to the harvest of shellfish never removed on November 14, and different dates were assigned for shellfish that were re-submerged to account for product re-acclimation: November 17 for product returned on October 14, and December 1 for product returned on October 18. Industry outreach was conducted to reiterate proper shellfish harvesting, handling, and transport procedures (especially the need to have a properly-marked human waste container).

Ron Bergstrom asked if the Division had identified any factors that make an outbreak more likely after introduction. Mike Hickey indicated that viruses survive better in cooler temperatures, so spring and fall are more common (when a person sick with Norovirus might still be on the water). Ron further inquired about enforcement of the requirement to carry a waste bucket. Mike indicated that both state environmental police and local shellfish constables can enforce the requirement. If FDA is doing a local assessment and sees non-compliance with this federal requirement, it will alert DMF to take corrective action, which if we didn't could trigger a non-compliance finding. Education to industry is the primary tool; the state also has an extensive pump-out facility program. Chris added that as the Division's

aquaculture program grows, DMF audits will increase and include review of compliance with the requirement.

Chris Sherman commented that while growers are the individuals most frequently on site, they also have the most to lose from shellfish closures and thus the most incentive to prevent Norovirus introductions. Consequently, boaters and other visitors also need to be educated about the impacts of discharge. He recommended that the shoulder season of September/October when there are still many boats present, especially those that stay within 3 miles, in conjunction with cooler temps is the time to focus on. Mike noted the Division's participation at boat shows, and suggested these be a venue to increase public awareness. Tom Shields added that Wellfleet town officials had suggested the placement of port-o-johns at more boating access areas and postings.

Paul Bagnall reported that pumpout facilities are free in Edgartown, including having the boat come to you, but he was unsure if this was universal. He agreed that education and outreach were essential. Jeff Kennedy commented that Newburyport had, rather ironically, seen an increase in the use of pumpout facilities after requiring a \$5 pumpout permit fee.

#### Amnesic Shellfish Poisoning Closure

Mike Hickey gave a presentation on the *Pseudonitzschia* bloom and the shellfish harvest closures that began in Massachusetts, depending on location, on or after October 8 and extended through October 31. Prior to this the Division had no real experience with Amnesic Shellfish Poisoning (ASP) in Massachusetts.

*Pseudonitzschia* are naturally occurring, with over 14 species present in the Gulf of Maine. Seven are known to produce the neurotoxin domoic acid. The identification of species (and thus whether toxic or not) requires either electron microscopy or genetic analysis. The presence of toxic species also does not necessarily mean that domoic acid is being produced; its production is thought to be related to a variety of environmental factors. The consumption of seafood with an accumulation of domoic acid—whether frozen, raw, or cooked—can cause the life-threatening ASP. The FDA guidance on domoic acid levels requiring regulatory action is 20 ppm.

The timeline for the event began with Rhode Island closing Narragansett Bay and Mount Hope Bay on October 7, after finding unprecedented numbers of *Pseudonitzschia*. In response to a question from Alex Hay, Mike indicated that Rhode Island detected the bloom through routine monitoring; the Division regularly monitors but does not quantify *Pseudonitzschia* levels. On October 8, DMF closed Buzzards Bay after sampling found *Pseudonitzschia* levels of >700,000 cells/liter and Rhode Island confirmed toxicity of the bloom in their samples. DMF extended the closure to include Nantucket Sound and south of Cape Cod on October 10, with *Pseudonitzschia* levels >100,000 cells/liter.

On October 11, water samples from Cape Cod Bay, Buzzards Bay, Mount Hope Bay, and Nantucket Sound were shipped to Florida for species identification and 15 shellfish samples were shipped to Maine (Bigelow Lab) for domoic acid analyses. (MA and RI state agencies have equipment to test for domoic acid but currently lack technicians skilled in its use). Testing returned a negative toxicity screening, but it is notable that in Maine toxicity increased as the bloom dissipated and these samples were taken early in the bloom. Rhode Island was not cautious enough and reopened waters only to reclose, a situation we wanted to avoid.

On October 19, quahog samples collected in Buzzards Bay tested positive for domoic acid using a Scotia Rapid Test. DMF doesn't normally have funding to purchase these tests; the Administration provided it specially. Their use was delayed more than ideal due to shipping and a delay at customs. On October 20,

Woods Hole Oceanographic Institute launched an event response cruise in Buzzards Bay aboard the R/V *Tioga*. Sampling conducted between October 24–27 identified *Pseudonitzschia* levels in most areas at <5,000 cells/liter and shellfish meat samples were consistently negative for toxicity. Consequently, DMF reopened all waters closed due to the threat of ASP on October 31, but continued to monitor the bloom and test shellfish meats for toxicity to ensure public safety.

In addition to occurring in Massachusetts and Rhode Island, the *Pseudonitzschia* bloom hit Maine as well, making it a regional event. One of the toxic species that was indicated in the bloom is generally an offshore species, suggesting that the bloom began offshore. The bloom also did not fit the expected seasonality (based on temperature), another indication that it likely originated offshore.

In total, DMF collected shellfish meats from shellfish growing areas in 20 towns for testing. Forty-eight samples were tested using the Scotia Rapid Test, which only indicates presence or absence of toxicity. The two samples with positive Scotia screenings were then tested with HPLC at the Bigelow Lab for toxicity level. Fifteen other samples were tested at Bigelow Lab for toxicity prior to DMF receiving the Scotia kits (all negative). The Division's rapid response, including the closure and monitoring, appears to have prevented a public safety issue, as no illnesses have been reported.

Dan McKiernan inquired whether *Pseudonitzschia* blooms would likely become an annual occurrence. Aquaculture Specialist Chrissy Petitpas replied that it was impossible to predict at this point. The first and last time a bloom occurred was in 1987 in Nova Scotia, under similar environmental conditions, and nothing since then.

Importantly, because of the event, Mike indicated that DMF will have to become more involved in monitoring for *Pseudonitzschia* and the threat of Amnesic Shellfish Poisoning. We need to find an effective but cost-efficient means of monitoring (it would be prohibitively expensive to routinely test at the Bigelow Lab). Currently, the best we can do is screen with the Scotia Kit internally and then send out samples for further toxicity level testing. Mike expected that the ISSC would be engaging on the issue.

### **Swipe Card Pilot Project**

Statistics Project Leader Anna Webb presented on the status of the Swipe Card Pilot Project. The Panel was previously introduced to the Pilot Project, so her update focused on recent developments. Initiated in late 2014, the pilot project was underway in the spring of 2015 with a test application, with Massachusetts beginning just with state-only shellfish dealers. A number of advances followed this testing phase, including greater DMF and DPH partnership, resolving card issues, and adding certain elements to the application for improved performance.

Anna summarized some of the application's features. A harvester's transaction card is used to begin a transaction with a dealer, using his device with an attached card reader (as inexpensive as \$50 to \$100, although printer-integrated readers are more costly) or built-in barcode scanner. Manual data entry is also allowed as a fallback (entry method is tracked for DMF review). The user has the ability to: set favorites (most default to the last used); enter negative reports; enter data typically reported by a harvester and automatically generate a harvester ticket as well; and email receipts. Upon identifying the harvester, the application will only display species that the harvester is allowed to land. Additional entry fields for DPH data requirements are available for optional use so as to reduce duplicative reporting.

The project is fully operational now and available for use by any state-only shellfish dealer. Anna reported that one dealer was currently using the application, but she had three more queued up to begin using it before the end of the year. She'll be focusing on industry outreach and developing tutorials next to

increase its use. Additional next steps include finalizing an integrated Excel sheet for DPH logs. The application is expected to be rolled out for use in other states in 2017. Anna finished by walking the Panel through a demonstration of the application's use.

Dan asked if the application could be restricted so that the dealer couldn't report harvest from a shellfish growing area that is closed. Anna and Mike concluded this would take further consideration because of potential complications with reporting time, the various types of closures and their frequency of status changes, and that MA can't make changes to the application on its own (but has to go through ACCSP).

Permit Program Administrator Story Reed asked about the possibility of the application being made available for federal dealers (i.e., dealers that purchase from federally-permitted harvesters). Anna replied that NMFS was interested to offer but not require the application, and that she was meeting regularly with federal personnel to determine what adjustments would need to be made to the application to accommodate federally-reporting dealers. This means that the application could potentially be made available to all Massachusetts dealers (for all species) in the near future (possibly even 2018).

Monte Rome noted that the application's ability to produce end of day (or other period) reports wouldn't necessarily reduce recordkeeping for dealers, because they have to enter the same data into their own systems. Anna acknowledged that this was true and that the application was currently more useful for smaller dealers, although they were considering ways to enhance it for all users, such as being able to download data from the application into a dealer's own database for inventory or other purposes.

Bill Doyle asked about law enforcement's ability to view reports generated by the application (or the SAFIS dealer database in general). Anna indicated officers don't currently have the ability to access the SAFIS database, but it's something that could be considered for the future, although confidentiality of data and proper handling of reports to maintain confidentiality would have to be carefully considered. Bill agreed that maintaining the confidentiality of reports would be a concern.

### **Permitting Out-of-State Seed Hatcheries**

Dan McKiernan introduced the next agenda item as a new idea that is being presenting to the Advisory Panel. Mike Hickey reviewed the current state of requirements for seed hatcheries. All seed hatcheries, whether in or out of state, are required to be on DMF's "approved list" to sell seed to MA-licensed aquaculturists, but DMF has only applied the Shellfish Hatchery permit requirement at 322 CMR 15.04(1)(b)3 to hatcheries within Massachusetts.

DMF is interested to reinterpret the hatchery permit requirement to apply to any hatchery selling seed to a MA-licensed aquaculturists (this likely wouldn't require a regulatory change). The Division is considering this because sourcing of shellfish seed is basically on the honor system. Aquaculturists have to tell the Division who they plan to buy from on their permit application (and the hatchery has to be on the "approved list"), but there is no record of it if an aquaculturist makes a purchase from an unapproved source. Additionally, there is no way to sanction an out-of-state hatchery that sells seed to a MA aquaculturist without being on the "approved list" (because they have no permit to suspend or revoke).

A few recent cases of seed being purchased by and/or from unpermitted individuals have raised concerns relative to spreading shellfish diseases, Vibrio controls, and possible damage to industry and public shellfish beds. An alternative to permitting out-of-state hatcheries could be requiring growers to supply hatchery invoices for accountability. Neither solution would prevent illegal activity by non-permit holders but would give the Division more control.

Mike put the question to the Panel: should we be concerned about this? Are controls worth the effort?

Ron Bergstrom suggested that hatcheries could be required to report how much seed they sold and to whom. Chris Schillaci indicated that this is a condition of the hatchery permit, but out-of-state hatcheries aren't permitted and thus are not subject to it. The 2016 approved hatchery list includes five in-state and nine out-of-state businesses. The number of in-state hatcheries is relatively stable while the number of out-of-state hatcheries varies from year to year.

Ron asked whether growers could be required to buy from in-state hatcheries. Mike replied that this would constitute an interstate commerce violation, but that the Division can require all hatcheries to abide by the same rules. Dan noted that the Division's tentative proposal had not undergone legal review yet.

Mike stated that the permitting proposal would not prevent a grower from (illegally) buying from someone not on the approved list or without a permit. Chris Sherman suggested that an unintended consequence of the proposal could be to encourage an unscrupulous grower to buy from an even less reputable hatchery because the out-of-state hatchery they usually use didn't want to get a MA permit.

Bill Doyle noted that obtaining seed from MA hatcheries had not been easy recently, thus he supported any initiatives to encourage the growth of MA hatcheries. He noted wariness about managing everyone because of the exception (i.e., the rare unlawful entity). He also commented on the problem of casual oyster gardeners in other states (waterfront property owner growing shellfish on dock). Mike replied that the Division has been adamant about not promoting oyster gardens.

Chris Sherman endorsed the permitting proposal because it would put all hatcheries on the same playing field, could apparently be done easily (without a rule change), and shouldn't be a burden for MA growers, MA hatcheries, or legitimate out-of-state hatcheries. It would only inconvenience those out-of-state hatcheries that have trouble meeting our requirements about disease monitoring, etc. Monetarily, it also would not be a drain because the permit fees are low (\$10 in state, \$20 out of state).

Bill Doyle suggested that the Division send a list of approved purchasers/growers to the permitted hatcheries. Others on the Panel agreed, including Chris Sherman and Diane Murphy. Diane further commented that more controls were necessary to stop anyone from buying from an out-of-state hatchery. Alex Hay commented that more outreach would be appropriate about seed sourcing and applicable rules.

Steve Doane asked what other states were doing to address this issue, because it's likely not unique to MA. Mike's research had indicated that other states weren't doing it, but suggested that MA could lead the way for the ISSC to adopt a standard. Bob Wallace also agreed that more controls were needed to prevent the introduction of disease and protect the reputation of MA's industry.

### **Aquaculture Update**

Chris Schillaci provided the Panel with a few updates on issues relevant to the Division's Aquaculture Project. First, the Aquaculture Project's personnel had recently increased with the addition of Chrissy Petitpas to help support the growing Massachusetts aquaculture industry, as requested by the industry. In 2015, the aquaculture industry saw a \$3.5M increase in value (to just over \$23M), and the addition of 22 acres of leased land (for a total of 1,129 acres).

Second, new regulations affecting the harvest and sale of certain aquaculture raised shellfish were implemented in 2016 (322 CMR 14.03(2)). Effective October 20, the in-state sale of aquaculture-reared oysters measuring at least 2 ½" longest diameter and surf clams measuring at least 1 ½" shell diameter became allowed. Permitting the sale of these "petite" shellfish was requested by industry to help increase supply throughout the year, grow the market, and diversify the supply of shellfish. A similar allowance for undersized aquaculture-reared quahogs had been proposed at public hearing but was not adopted due to strong opposition from wild quahog harvesters.

Third, the Division's aquaculture permitting database is undergoing a major update and migrating from Microsoft Access to the Oracle permit database used for other commercial permits issued by the Division. The inclusion of the aquaculture permitting data into Oracle will allow the linking with other commercial permits, standardize the permit year to the calendar year, and improve GIS mapping capabilities.

Alex Hay asked whether Law enforcement can use the system. Chris replied, no, they have to go through staff, but anyone can use the DMF website's search tool to look up a harvester and see what they are permitted for (which in the future will include shellfish propagation permits).

Lastly, there has been a recent increase in kelp aquaculture interest in Massachusetts. The Division issued three scientific permits for projects in Manchester by the Sea, Chilmark, and Falmouth. Additionally, the Division expected to issue its first-ever commercial permits for kelp aquaculture (all on existing licensed sites) in Oak Bluffs, Chilmark, and Fairhaven.

### **2016 Vibrio Season**

Chris Schillaci continued with a presentation on the 2016 Vibrio Season in Massachusetts, beginning with the new regulations. The first had further restricted the time-to-ice requirement (to one hour) for Duxbury, Plymouth, Kingston, and Katama Bay from July 1–September 15 due to repeat illness occurrences in previous years. The state had seen a reduction of illnesses in 2016, but it will take a few years to see if this was due to the new regulations or a combination of factors. Most growers were able to adapt to the new requirement without undue burden. The second new regulation liberalized the re-submergence period requirement from 14 to 10 days (statewide) based on new DMF-conducted research. The Division's re-submergence research was ongoing in order to evaluate if the re-submergence period could be further reduced. Chris reported that the Division was not anticipating any rule changes for 2017.

In addition to more re-submergence studies, the Division increased its research and monitoring in several other areas. A transplant study, moving oysters from Katama Bay (V20) to Edgartown Outer Harbor (V13) prior to harvest, was piloted. Perhaps as a result, illnesses linked to Katama Bay decreased from 14 cases in 2015 to just two cases in 2016. The Division also expanded its monitoring capacity for background Vibrio levels and environmental characteristics, in part through a \$37,000 ISSC grant and also through partnering with FDA. The Division also partnered with NOAA to develop Vibrio Guidance Models, which forecast harvest windows expected to minimize the risk of Vibrio. Chris clarified that these provide best management practices and won't be used to restrict the industry (i.e., seasonal closures).

The total number of Vibrio illness for 2016 was 10 cases—a decrease from 29 in 2015 despite an increase in oyster landings. There were no recalls. The risk per serving was the lowest in the last five years. Chris noted that illness numbers were down in other states too, and factors could include drought and low turbidity. The Division was planning to have industry meeting prior to the 2017 season (despite no regulatory changes) to continue to encourage best management practices and share research results.



Paul Bagnall noted that the MA Shellfish Officers Association would also be discussing the Vibrio season at its December 15 meeting in Hingham.

### **Proposed Regulations for Razor Clams**

North Shore Regional Shellfish Supervisor Jeff Kennedy introduced two possible proposals to further regulate the harvest of razor clams. The Division is considering them partly due to growth in the razor clam industry. Landings show an increasing trend, peaking in 2013, with increased effort. The price per pound tripled from 2006 (\$1.25) to 2015 (\$4.23). Ron Bergstrom said he suspected that the uptick in 2013 landings was due to a temporary bump-up in harvest from Chatham. Mike Hickey agreed that razor clams tend to follow a cyclical boom and bust cycle, and added that softshell clam availability may also be a factor (i.e., razor clams act as a substitute when softshell clams are down).

The two possible proposals are: 1) to prohibit the use of bleach and bleach products to harvest razor clams; and 2) to regulate the harvest of razor clams with a minimum size.

Regarding bleaching, strict regulations on its discharge into the environment already exist in other state laws, including the Wetlands Protection Act, the Clean Waters Act, and the Marine Fisheries Act, but a directed rule in the marine fisheries regulations would improve enforcement capabilities. Chlorine bleach is a biocide, hence the concern that it could make harvested shellfish unfit for consumption and impact survival of shellfish not harvested.

Jeff displayed draft regulatory language developed with legal counsel. While the harvest of razor clams with bleach sprayers was the impetus for considering a prohibition, the draft language also includes oysters, quahogs, and softshell clams. It would prohibit: 1) recreational and commercial harvesters from using bleach or bleach products to harvest these shellfish resources; 2) recreational and commercial harvesters from possessing these shellfish resources if they have been bleached in any way; and 3) recreational and commercial harvesters from possessing bleach or bleach products while harvesting or possessing these shellfish resources.

Panel members had some concerns about the draft language, mostly specific to the possession of bleach or bleach products while harvesting shellfish, because there are uses for these products other than harvesting. For example, Bill Doyle noted that bleach is used to clean boats. Chris Sherman noted that in other states shellfish are dipped in a bleach solution to be rid of burrowing organisms; however, Chris Schillaci indicated this is prohibited in MA. Alex Hay noted that there is precedent for such language for lobster vessels (to protect egg-bearing lobsters). It was also noted that DPH doesn't want shellfish to come into contact with any chemicals, hence why shellfish racks are elevated off the ground.

Regarding a minimum size requirement, Jeff informed the Panel that there is currently no statewide rule, although some MA towns have adopted minimum sizes (e.g., 4.5", 5"). Diane Murphy had found that other Atlantic Coast states did not appear to have a minimum size, but some Pacific Coast states and the EU had rules for similar species. Some communities also have daily limits, which generally affected harvesters using sprayers.

Jeff pointed out that limitations on life-history and resource status information make it difficult to determine whether a minimum size is needed to protect the resource due to increasing harvest. For example, while we know razor clams are a fast growing species, DMF doesn't have local data on sexual maturity or fecundity, nor current population abundance or age/size composition. It would be costly to create a survey to assess these population trends. High inter-annual variability in stock size is also typical.

Monte Rome indicated that there is a market for 3" razor clams. For instance, he had made purchases of smaller clams when a harvester needed to clear them off his grant because they were inhibiting the growth of his reared species. Most of his market for razor clam sales was Asian in origin. He also commented that if the broodstock is offshore, a minimum size in inshore waters won't do much to protect the resource.

Chris Sherman said he'd observed an increase in smaller clams being harvested and brought in for sale. He would rather these be harvested when bigger because the market price is better for larger clams.

It was determined that the Division would bring both proposals to the shellfish community at various venues (e.g., MSOA meeting) as a next step for input, prior to further development for public comment and hearings.

### **Bulk Tagging Pilot Program**

Mike Hickey provided a quick update on the bulk tagging pilot program discussed at prior Advisory Panel meetings. It had gone into effect this past September. Notification of the availability of Letters of Authorization (LOAs) to participate in the pilot program had been sent to 33 eligible grower/dealers, of which nine received LOAs. The program will be re-advertised and LOAs (re)issued for 2017. DMF and other agencies will also be working to review the success of the program, and consider revisions, expansion, etc. Chris Sherman commented that the pilot program was going well and supported its continuation.

### **Shellfish Dredge Permitting and Regulations**

Dan McKiernan presented on emerging issues in the Commonwealth' shellfish dredge fishery. At present, there are three species-specific dredge fishery endorsements: surf clam, ocean quahog, and bay quahog. The bay quahog endorsement was originally designed to manage this species in the Nantucket Sound "donut hole." Recently, Southeastern Cape Cod Bay has seen increased interest by vessel owners seeking to land bay quahogs in the same trip as surf clams. Additionally, the directed dredge fishery for mussels has increased but no specific permit or rules exist. All shellfish dredge fishing is now subject to the same 48" maximum dredge width requirement, but the gears are not further delineated, such as by bar spacing requirements. Daily limits and minimum shellfish sizes differ.

Based on general confusion as to what is allowed in the fisheries, there is a need to review the existing rules, and if they are determined to still be necessary, to add clarity. The current regulations (322 CMR 6.08) prohibit vessels rigged for the harvest of ocean quahogs to possess surf clams, and prohibit vessels using hydraulic dredges for surf clams or ocean quahogs to possess bay scallops or bay quahogs unless licensed by the town in whose waters the vessel is fishing to harvest and retain these species. In 2016, the Division issued 46 bay quahog endorsement, 33 surf clam endorsements, and 26 ocean quahog endorsements. Four permits had all three endorsements; 17 permits had both surf clam and ocean quahog endorsements; and five permits had both surf clam and bay quahog endorsements.

Dan explained that management is complicated by jurisdictional issues. The surf clam fishery is managed by the state alone, while the bay quahog fishery is managed by municipalities in town waters (resulting in various trip limits) and by the state outside of town waters. Municipalities also have differing regulations on the use of power and hydraulic dredge gear in their waters.

Dan asked for any Panel input on the current state of shellfish dredge fishery permitting and regulations, such as bar spacing to further delineate the fisheries. David Kelly commented that he uses a bar spacing of 2.5" to target surf clams but still catches quahogs. Allen Rencurrel said his concern was for bycatch

mortality of sublegal surf clams (less than 5") without a bar spacing rule for surf clam dredges. He had seen a reduction in his sublegal catch using 2" and 2 ¼" spacing, and suggested the Division propose the establishment of a 2" bar spacing requirement. Mike Hickey noted that the Division doesn't currently have any selectivity data on various bar spacing configurations.

Alexander Cestaro commented on his town of Eastham's prohibition on hydraulic dredging, and his opinion that it had been based on incomplete/incorrect information and should be reconsidered. He also agreed that the current regulations separating the harvest of surf clams and quahogs needed review. Mike Hickey sought to clarify that DMF has nothing against hydraulic dredging as a harvest method, adding that Town decisions on the matter are often more political than scientific. Dan indicated the Division's willingness to provide Mr. Cestaro with any information about hydraulic dredging.

It was determined that the Division would continue to review the current permitting scheme and regulations for the shellfish dredge fisheries, and return to the Advisory Panel with a proposal.

### **Status of North Shore Harvest Opportunities**

Dan McKiernan turned to Allen Rencurrel regarding this agenda item as it had been added at his request. Allen stated that he wanted to begin a discussion with DMF about conducting more surveying and testing in order to increase the amount of area on the North Shore open to the harvest of surf clams. He had heard many reports of surf clams washing ashore in Revere in large numbers.

Jeff Kennedy stated that classification changes are needed to open new areas. Regarding Revere, the Lynn Wastewater Treatment Plant terminates in Broad Sound. While the wind driven system here may push effluent out to sea, there are two breaks in the pipe. DMF had just completed a study of the area with FDA and a report was expected soon.

Jeff commented on several other North Shore locations that the Division had older data indicating the presence of surf clams. At both Devereux Beach in Marblehead and Good Harbor Beach in Gloucester, the resource was thought to be too tight to the beach. While areas off Annisquam in Gloucester and the southern end of Plum Island were classified as approved, the current regulations prohibit surf clam harvesting north of Point Allerton in Hull, so a rule-change would be needed. The Division also had a prior agreement with relevant towns that established the area inland of a line from the mouth of the Annisquam River to Camp Sea Haven (Plum Island) as open for recreational use only. Dave Sargent spoke to the importance of the recreational surf clam fishery there. Allen stated that his interest was in getting a new survey conducted along the North Shore to see where the resource is, and then pursuing classification changes where needed.

David Kelly said he thought there was an area off Cape Ann that was opened by former Director Diodati a few years ago for surf clams, but not by hydraulic dredge. Dan suggested that the Division dig up the history of management and monitoring on the North Shore.

### **Other Business/Adjourn**

Paul Bagnall noted that the Martha's Vineyard Shellfish Group had had a great year at the Hughes Hatchery and was very keen to renew its lease of the facility with the Division.

Seeing as there was no further business, the meeting was adjourned.

### Meeting Documents & Presentations

- November 17, 2016 Shellfish Advisory Panel Draft Agenda
- Wellfleet Norovirus Outbreak Presentation (by C. Schillaci)
- Potentially Toxic Phytoplankton Bloom Presentation (by J.M. Hickey)
  - Swipe Card Pilot Project Update Presentation (by A. Webb)
- Permitting Out-of-State Shellfish Hatcheries Presentation (by J.M. Hickey)
  - Aquaculture and Vibrio Update Presentation (by C. Schillaci)
- Bulk Tagging Pilot Program Presentation (by J.M. Hickey & C. Schillaci)
- Proposed Bleach Prohibition as Shellfish Harvest Method and Implementation of Razor Clam Minimum Size Memorandum (by J. Kennedy)
  - Atlantic Razor Clam Presentation (by J. Kennedy)
- Shellfish Dredge Permitting & Regulations Presentation (by D. McKiernan)
- Status of North Shore Areas for Surf Clams Presentation (by J. Kennedy)