Exploring Successful Program Elements and Potential Improvements to Maine's Municipal Shellfish Program

Workshop Series Summary Report

August 19, 2022

SUBMITTED TO: Maine Department of Marine Resources and the Shellfish Advisory Council

PREPARED BY: Laura Taylor Singer, SAMBAS Consulting LLC

Table of Contents

Overview

About the Workshops

The Maine Department of Marine Resources (DMR) held a series of four workshops on May 2 – 9, 2022, with three in-person meetings and one online meeting via Zoom. These workshops were a collaboration between the DMR's Shellfish Advisory Council (ShAC) and the DMR Bureau of Public Health where the Shellfish Management Program resides. The purpose was to foster an open discussion about the current co-management system used to manage wild shellfish resources and generate ideas for how the system might be improved. Maine has more than 70 municipalities with local shellfish programs that work in cooperation with the DMR. Each program is unique to their community or region, but each also has some commonalities and standards to sustain the public shellfish resources for the benefit of Maine's residents. The workshop participants were asked to consider – what makes a municipal shellfish program successful, what might be useful to consider improving upon, and what might be best to stay unchanged?

The workshops were designed to foster dialogue and form the beginning of an ongoing process by the ShAC to look across the state and explore if any changes to the current municipal shellfish program would be productive.

Each of the three in-person workshops followed a similar agenda, opening with a brief overview of the existing municipal shellfish program, followed by a panel discussion to generate initial ideas on components of a successful municipal shellfish program and an open discussion among participants. Each panelist was asked to share their insights on the following:

- *What does it look like to have an effective program?*
- *What do you see as the key components for success?*

The workshop participants determined the top ideas for small group conversation by voting on their priorities from the initial list of ideas generated by participants.

The online workshop via Zoom included the same opening with a brief overview of the municipal shellfish program, followed by a presentation summarizing the topics discussed at the in-person workshops. A poll was taken among the workshop participants to determine which topics to discuss together. Meeting summaries and a sample agenda from each of the four meetings can be found in the Appendices.

The small group discussions focused on the following key questions for each prioritized topic:

- *What does your municipality currently do to address this issue?*
- *What additional strategies could be used?*
- *How could municipal shellfish programs be improved to address these issues?*

- *What ways could DMR and municipalities partner for a more effective municipal shellfish program to address this issue?*

Over the course of the workshop series, 92 individuals participated in one or more workshops. This included harvesters, shellfish dealers, municipal employees, members of municipal shellfish committees and/or the ShAC, members of academic and science organizations, and DMR employees.

Municipal Shellfish Program Review

The 1821 Maine Settlement Act established Private and Special Laws by the 1st Maine Legislature. Of the 105 coastal municipalities, 78 municipalities had Private and Special laws by 1962. In 1963, municipal shellfish conservation programs were established. Title 12 M.R.S.A. Chapter 623 §6671 outlines the list of municipal authorities under the municipal shellfish conservation programs. These are activities the municipality may do but are not required.

Municipal Shellfish Conservation Programs - §6671

(1) Regulate or prohibit the possession of shellfish;
(2) Fix the amount of shellfish that may be taken;
(3) Provide for protection from shellfish predators;
(4) … open and close flats under specified conditions;
(5) Specify areas of the intertidal zone which the dragging of mussels may be limited…;
(6) Establish minimum size limit …;
(7) Establish a maximum size limit …

In addition:

⇒ A shellfish conservation ordinance may fix the qualifications for a license …
⇒ A municipality that enacts an ordinance … is responsible for enforcing it.

Regulations established through the DMR further outline the role of the municipal shellfish program under Chapter 4 – Municipal Shellfish Conservation Warden Certification and Chapter 7 – Requirement for Municipalities Having Conservation Programs.

Under Chapter 7, a "Shellfish Management Plan" is defined as *a written description of the biological measures used to accomplish the management provisions in the municipal shellfish conservation ordinance, including but not limited to an annual review, budget, and objectives for the following year.*

Municipalities are responsible for:

1. Establishing …the number, type and fees of shellfish harvesting licenses to be issued…
2. …may be required to conduct resource surveys on a periodic basis …

3. Enforcing the municipal shellfish conservation ordinance by a Department-certified Shellfish Warden… [Municipalities have 1 year to get a warden before ordinance is removed];
4. Submitting annually…a complete and accurate Municipal Shellfish Management Plan Review…

The municipality may appoint or elect a shellfish conservation committee to assist the municipality in executing its responsibilities but a shellfish conservation committee is not a requirement.

Other optional components that are not required in a state approved municipal shellfish program include conservation time, conservation activities and requirements for adding new species to the ordinance. These are under the discretion of the municipality.

The municipalities and DMR work in partnership to manage the shellfish resource through a co-management approach. The municipality develops the shellfish ordinance, recommends license levels, is responsible for enforcement of the ordinance and submits an annual management review to DMR. The state, through DMR, is responsible for approving the municipal ordinance, approving licensing, training and certifying shellfish wardens and issuing permits for transplant programs, conservation closures, etc.

Key Ideas and Themes

There were several common topics that emerged from the series of workshops. While all were related to municipal shellfish programs, the issues were broad and covered conservation, shore access, licensing, and communication, among others. Some of these issues are appropriate to address through DMR's Shellfish Management Program, while others may fall to other state programs or local municipalities.

Municipal Shellfish Committees

There were several points throughout the workshops where reference was made to the structure and effective function of municipal shellfish conservation committees. As outlined during the DMR overview of the municipal shellfish program, a shellfish conservation committee is not required in law or regulation. This fact was surprising to several of the workshop participants who had assumed this was a required component of municipal shellfish programs. The majority of municipal shellfish programs have an active shellfish conservation committee, however there are some towns with no shellfish conservation committee and the select board runs the shellfish program.

In the Brunswick workshop, harvesters shared that they believe they are "losing their voice" in the governance process as the membership on the shellfish conservation committees has

shifted to reflect the changing demographics of the community in that region. Fewer and fewer harvesters are on the shellfish conservation committee and more residents who lack an understanding of harvester's issues and concerns are on the committee. Most harvesters don't want to get involved in management (i.e., participate on committees) for a variety of reasons. However, they do want to make the clam flats more productive and participation on the shellfish conservation committee is one way to do that.

Key elements of a successful shellfish conservation committee

There were several ideas shared throughout many of the workshops on elements of success including:

- Maintain a core membership to have an effective quorum (i.e., need enough people on the committee).
- Harvesters are especially important to have on the shellfish conservation committee; however, there should be a diversity of skills and perspectives.
- Shellfish conservation committees should be structured to address the needs of wild harvesting and harvesters need to participate in the meetings.
- An active and engaged committee is important to effectively manage the resource.
- Members who are leaders in the community and engaged with other community members are important.
- Understanding how to run an orderly meeting with a strong chair is important and finding that key person is critical.

Enhancing the effectiveness of shellfish conservation committees

A few suggestions for enhancing the effectiveness of shellfish conservation committees included:

- Allowing shellfish conservation committees to work more directly with the state (rather than going through town councils/boards of selectmen).
- Encouraging towns with shellfish conservation committees to incorporate harvester seats as specific committee members in their town ordinance.
- Providing resources and training for shellfish committees to learn key skills for running productive meetings
- Encouraging participation from younger harvesters.
- Educating shellfish conservation committees on the responsibilities of managing the resource and introducing them to the information and tools to achieve this.

Increasing harvester participation

Harvester participation in meetings can be increased through:

- Creating productive meetings and gathering input from harvesters on the issues being discussed.
- Validating local knowledge and empowering harvesters by listening.
- Making good use of time with shorter/fewer meetings (monthly or bi-monthly meetings; one hour or less; and taking certain busy seasons off entirely).
- Providing food.

Funding considerations

A major concern was the need for funding for conservation and management efforts from sources other than the town. Funding for the warden's salary was specifically mentioned as a hardship for many towns. Harvesters noted that although they can work with towns to increase the budget allocated to shellfish activities, this is difficult with other municipal demands such as schools, fire departments, or other critical needs. Three ideas were mentioned during the workshops:

- Grants through the Maine Shellfish Restoration and Resilience Fund[1] were mentioned several times, and many towns have taken advantage of these funds.
- The state was also encouraged to consider an increase in the state license fee to create a research/management fund for town shellfish programs.
- Create a license plate to generate funds for municipal shellfish management like other specialty Maine license plates for wildlife, lobster research and the Humane Society.

Regional Approaches

The general theme of regional approaches was highlighted throughout the workshops in a variety of ways. It was noted that working with adjacent towns helps to understand overarching trends and enhances communication. In particular, communication among wardens between municipalities is important. Reciprocal licenses between nearby towns can cultivate regional relationships as well as share the burden of effective enforcement.

Specific reference was made in the Ellsworth workshop to the work being done in Frenchman's Bay, which is a joint program among seven towns. The seven towns have established a common ordinance (enacted independently by each town) that enables broodstock protection and rotational closures. There are roughly 60-80 license holders in the region and the regional agreement allows harvesters to move among areas and allow some harvesting areas to lie fallow. Coordination among the municipalities provides an opportunity to compare what is happening in different locations and select the appropriate places for seeding or conservation measures. Area biologists from DMR were credited for facilitating many of the regional

[1] https://umaine.edu/shellfish-restoration/

conversations; however, there is still tension with some towns wanting to keep their independence.

Shifting to formal joint or reciprocal programs from individual municipal ordinances may increase harvester access. It was highlighted in Machias that individual municipal ordinances complicate Co-Op opportunities for dealers, while a regional approach would make developing a Co-Op easier.

Regional coordination is less formal than joint or reciprocal programs, and also provides opportunities to share standardized ordinance language with each other to address pressing community issues. For example, a shellfish warden helped rewrite an ordinance to address substance use issues by including "aiding and abetting" as a cause for losing a shellfish license.

Participants at all the workshops noted the benefit of the regional nature of the workshops themselves, and the value of the conversations.

Conservation of the Resource

Mechanisms to conserve and enhance the resources were mentioned throughout all the workshops with an emphasis on the types of activities that are most effective and sharing ideas about harvester participation in conservation activities. During the Machias workshop, participants focused on these issues specifically during the breakout discussions, while seeding programs were discussed in detail at the Brunswick workshop.

A common theme throughout the discussions was the need for strong leadership from industry to champion conservation efforts and recruit harvester participation. The DMR area biologists were also seen as playing an important role to support municipal conservation activities and participants suggested adding additional area biologists to support the towns.

Monitoring the effectiveness of conservation activities was also raised including the importance of documenting and sharing data with other towns. Consistency of activities to see results over the long term was also highlighted. It was noted that if people see conservation activities are successful, they might be more willing to keep participating. Participants recommended promoting activities that provide the "biggest bang for the buck".

The state could play a role in assessing the effectiveness of different types of conservation activities and consolidate recommendations on what works to share with the towns.[2]

[2] https://static1.squarespace.com/static/6026cbaf8dfa6838a1b67b5e/t/615dc2a085b7cf4dd5abda3b/1633534627119/ConservationMatrix-100621_final.pdf

Types of activities

There were a variety of conservation activities mentioned with each serving a different purpose and having variable costs, time commitments, and success depending on multiple factors.

- *Rotational flat closures* – Seasonal closures (summer/winter) allow for shellfish to reseed an area and can be timed to benefit harvesters. Seasonal overlap of rotational closures allows for transition of harvesting effort.
- *Trapping juveniles or "brushing"*– Several techniques have been used over the years to trap juvenile shellfish by slowing down the water flow and concentrating shellfish spat so that it settles in an area. These include using:
    - Hardwood/Softwood materials stuck vertically in the mud (brushing)
    - Domes made with manmade materials
    - Crushed lobster traps
- *Seeding and/or transplanting* – There are multiple types of seeding and this can be done in conjunction with other activities such as brushing. Several towns have used recruitment boxes to collect and protect seed until grow-out and/or to identify productive flats. Seed may need further growth before transplanting and the timing is important with the initial seed set (typically April/May, with Downeast being the latest in June/July) and second seed set in September. Participants noted potential future seeding of quahogs. It was noted that hatchery seed availability may not be reliable year-to-year, and perhaps there is a need to increase local hatcheries to provide seed. Transplanting wild seed can be a major effort and there were questions about the results being worth the effort.
- *Upwellers* – These structures are typically used to grow seed clams to a viable size where they can be planted in the mudflats. However, some towns are experimenting using upwellers to protect adult clams to increase spawning success. For example, Waldoboro is seeing improvements in enhancing natural stocks from their seeding efforts using adult clams in an upweller and placing it in areas that could benefit from spawning clams.
- *Manual or mechanized flat roughing* – While considered too short term by many due to sediment recompacting and flattening, this activity, similar to tilling a garden, is best done during spawning time for the largest impact. Loosening sediment changes the flow pattern and increases surface area to catch settling spat. The timing depends on the area spawning and setting schedule and the current/wave impact post activity vs settling time.
- *Predator removal* – Green crabs have been a notable invasive predator that have impacted many shellfish programs. Green crab trapping has been used to remove this

nuisance species and DMR has an umbrella license to allow for municipalities to conduct green crab trapping.

- *Pollution monitoring* – This can be accomplished through water quality testing and/or shoreline surveys to identify potential pollution sources.[3]
- *Shoreline clean-ups* – Removing trash from the beach was not considered conservation activities by some participants and is not exempt from the federal Department of Labor laws, but it can be used as an effective way for harvesters to talk to landowners and start to establish positive relationships.

Participation by harvesters and other volunteers

Participation by harvesters in conservation activities was a common struggle expressed by multiple workshop participants. Cultivating a sense of ownership for the project and making the project relatable to harvesters was noted as an important component to attract participation. Participation is also seen as more likely if a set schedule is established in advance. There were also several ideas generated to support broader involvement in conservation activities by volunteers throughout the community.

Harvester participation is addressed in various ways by shellfish conservation committees including:

- Require conservation time as a condition of license renewal.
- Compensate people for conservation work through either reduced license fees or direct payment.
- Increase license fees as a penalty for harvesters who do not participate in conservation time and use additional revenue to enhance the resource.
- Require payment of a fee in lieu of doing conservation work.
- Establish a point system whereby a certain number of points are awarded based on participation and harvesters need a specific number of points to get a license.

Recruiting other volunteers to participate in conservation activities helps the broader community to connect with the shellfish industry and could include students from local schools and universities as well as selectmen (and women), town administrators and general citizens. It was noted that no one under 16 can be required to do conservation work because it violates federal child labor laws.

State and federal permitting issues

It was widely acknowledged that permitting requirements greatly impact the willingness and ability of towns to participate in conservation activities, especially those that require a limited purpose aquaculture (LPA) license from DMR. Many of the conservation activities

[3] See Page 17 for greater detail on issues regarding water quality monitoring and shoreline surveys.

such as using an upweller or floating spat cages require the town to acquire an LPA through the DMR Aquaculture Program. These application requirements are designed for commercial aquaculture and can be a burden for towns to navigate. In addition, the riparian owners must be notified and this requires the town to educate residents about the difference between a potential commercial aquaculture activity and the need for an aquaculture license to support the municipal shellfish program, which is a public resource.

Additionally, other permit requirements for conservation activities can also require significant time and energy from municipalities. DMR requires 20 days between application submission and issuance of a particular permit like a 'relay and transplant' or 'conservation closure'. Some towns find it difficult to plan that far in advance, but others feel that 20 days is manageable. Army Corp of Engineers (ACOE) permits are required for some conservation activities and add another layer of complexity and require time and resources from towns who have a host of other pressing concerns.

Many participants throughout all four workshops advocated for efforts to be made to streamline the aquaculture licensing process for municipalities arguing that a more timely process is justified to help conservation and enhancement of a public resource.

Some specific suggestion that the state could consider included:

- Developing targeted public education about shellfish harvesting conservation efforts and the need for an aquaculture license.
- Moving aquaculture licensing for seeding programs and other municipal shellfish efforts from the DMR Aquaculture Program to the Shellfish Management Program to increase efficiency.
- Providing direct support to towns to complete the paperwork and navigate the aquaculture licensing process effectively.
- Working with the ACOE to explore ways to streamline ACOE permits for municipal shellfish programs.
- Exploring other tools such as permit-by-rule for some conservation activities.

Access to the Shore

Throughout the State of Maine, access to the shore continues to be an ongoing issue for people who make their living from the water. This issue was highlighted at each of the four workshops. The Maine Coastal Program at DMR attended the ShAC meeting in January 2022 to discuss access issues and subsequently created a document outlining resources to preserve fishing access.[4] Many of the concerns voiced by the workshop participants mirrored those by the ShAC

[4] https://www.maine.gov/dmr/mcp/access/index.htm

including the loss of traditional access points due to shoreside land ownership changes, which has accelerated since the Covid pandemic began, resulting in a loss of personal relationships and mutual understanding of former “handshake agreements”. There were fewer issues with access if the harvesters had cultivated a culture of stewardship and made connections with landowners. Self-policing of “bad behavior” was also considered a factor in reducing new restrictions on access. Larger programs with more harvesters experienced more issues with landowners placing new restrictions on access.

Participants at the workshops also noted that limited parking availability also restricts access and/or creates issues with distance to the harvest areas. Small boats are now needed to access some of the most productive shellfish areas and in some cases, this has led to other concerns such as an increase in noise (e.g., from airboats). The importance of prioritizing safe access and historic access was highlighted.

The topic of shore access was discussed in depth at three of the workshops and several ideas were generated. These fell generally into methods for harvesters to improve relationships with coastal landowners, either individually or collectively; municipal tools to preserve current access and better communicate the need for harvester access; and state actions to increase access points and support local access efforts. Cultivating a community supportive of the value of shellfish harvesting and the unique economic opportunity it creates was emphasized throughout the workshop discussions. There was a general sentiment that the demand on municipal wardens and shellfish conservation committees to address access issues has increased as new residents have arrived and municipalities are seeking more substantial support to maintain access.

Methods for harvesters to improve relationships with landowners

There were examples shared at the workshops about ways to foster better relationships with landowners:

- Host a “landowner appreciation day” to put a face to the industry and show appreciation for the current coastal landowners who provide access. Harvesters can also encourage new access points by inviting landowners with property seen as desirable for future access. These events open up an opportunity for relationship building, education about the resource and the value to the community, and cultivate goodwill among neighbors. They can also propagate the notion that providing access to harvesters in your community is the “cultural norm”.
- Support maintenance of landowner property by improving the trails for landowners, keeping the shore clean, contributing money to help maintain private roads, and offering to keep an eye on the property during the off-season for summer residents.
- Promote best practices for harvesters, particularly among younger harvesters, so it is clear what is expected for behavior and the value of maintaining a positive

relationship with private landowners by being visible, helpful and friendly, and minimizing pollution and noise.

- Participate in shoreline cleanups to provide more visibility of the value of the industry and foster a joint sense of stewardship of the resource with other community members. Shoreline cleanups can also be used to involve other groups in learning about the shellfish industry while volunteering (e.g., schools, snowmobile clubs, etc.). However, municipalities have shown various success with harvester participation with these types of events.
- Foster relationships with realtors so they will more accurately describe the activities that take place along the shore and the value of shellfish harvesting to the community with their clients.
- Work with land trusts to maintain access, create trail systems, and offer insight into additional locations that are important to the shellfish industry. (It was recognized that although most land trusts have been supportive of preserving and enhancing access for commercial shellfish harvesters, some land trusts have recently taken action to discourage or prohibit access in Cobscook Bay, for example.)

Municipal tools and solutions

Participants shared a variety of current tools being used in some communities and generated some additional ideas to consider:

- Educate the select board and other town committees about the shellfish program and the issues around access so they can better appreciate the need to support efforts to preserve current access or acquire new access points. For example, Lamoine leaders are making connections across the various town committees and working with the planning committee to elevate the importance of access for shellfish harvesters.
- Include waterfront access as part of comprehensive planning. Many municipalities are updating their comprehensive plans related to concerns about climate change and rising sea levels. These comprehensive plans are an opportunity to consider shoreline access in their plans.
- Review town ordinances to require new developments to include access and work with planning committees as shoreside developments are proposed to include access in the planning.
- Host a community listening session to better understand the concerns of coastal landowners, share stories of the value of the shellfish industry to the community and generate solutions to issues.

- Develop a "welcome to the community package" to send to realtors, with dos and don'ts for new property owners and what to expect when living in an active fishing community. For example, the Maine Coast Fishermen's Association is doing this type of work in Harpswell, and Gouldsboro has created a brochure modeled on that work.
- Pursue land acquisition through State grants (e.g., DMR Coastal Program[5]), local funds and partnerships with land trusts and private landowners.
- Consider local tax incentives for landowners who provide access.
- Explore using the Maine Inland Fish and Wildlife *Outdoor Partners Program* as a model for promoting landowner access and responsible use of private property.[6]

State tools and solutions

There were several suggestions made about way the state could support harvester access:

- Add information about access to the current door tags that are left by DMR when conducting shoreline surveys.
- Develop model language for town ordinances and comprehensive plans and encourage towns to include.
- Share resources created by the Maine Coastal Program for preserving commercial fishing access.[7]
- Work with the Maine Coastal Program to track working waterfront, including an inventory of walk-in access for commercial harvesters.
- Create a web portal that towns can contribute to which highlights different access points and share with interested land trusts. When publicly sharing access, confidentiality of certain access points should be considered.
- Explore the Current Use Taxation program and how this could be adapted to be used as a basis for a tax incentive for shore access. In its current form, this program offers the property owner a reduction in assessed value for Farmland, Open Space, Tree Growth, and Working Waterfront. The programs establish valuation of property at its current use, rather than at market value.[8]
- Require realtors to disclose working waterfront to buyers, including access to intertidal for commercial harvesting, and the types of activity that may take place.

[5] https://www.maine.gov/dmr/mcp/grants/index.html

[6] https://www.maine.gov/ifw/programs-resources/outdoor-partners-program/explore.html

[7] https://www.maine.gov/dmr/mcp/access/documents/resources_preserving_commercial_fishing_access_042822.pdf

[8] ttps://www.maine.gov/revenue/taxes/tax-relief-credits-programs/property-tax-relief-programs/land-use-programs

Access to Licenses

Municipalities are responsible for establishing the number, type and fees for shellfish harvesting licenses as part of their annual shellfish license plan and allocation submitted to DMR. Many municipalities offer different approaches and criteria for licenses, with some municipalities providing open access to the fishery. Typical license categories include: commercial, recreational, student, and senior. Non-resident allocations are required over a certain number of resident licenses. Most licenses are issued for a year; however, some towns that have a lot of tourists and visitors offer a day (or weekend) license for recreational harvest. Throughout the workshop series, various issues and concerns were raised about access to municipal shellfish harvesting licenses. This issue was specifically discussed during a breakout group during the workshop in Machias.

Access for students to enter the fishery and to provide an opportunity for students to be exposed to shellfish harvesting as a job was a common goal for many of the participants. Harvesting shellfish is seen as an entry point for other fishery-related job opportunities. It was also suggested that student licenses could be used as an opportunity to train new harvesters on how to be a good steward of the resource and use best management practices when accessing the shore.

It was pointed out that some people have limits to their capabilities (for example, learning disabilities) that prevent them from entering other jobs and access to a shellfish harvesting license for these folks is particularly important as one of only a few career options.

When license numbers are reduced through local ordinances or shellfish conservation committees, people become excluded from the fishery, and in some regions, this has impacted the Tribal Nations. For example, it was pointed out in Machias that the current resident/non-resident license structure has disparate impacts on the Wabanaki people. They are not able to participate in shellfish harvesting outside of Sipayik, the only coastal tribal territory, without getting a non-resident license, which can be exceedingly difficult to get in specific areas.

Although some believe open access to licenses would increase the number of shellfish harvesters until they over-harvest the flats, not all felt that open access would lead to the collapse of the resource. Maintaining local town control for shellfish harvesting licenses was generally supported though some advocated for a more regional approach to shellfish management, including licenses. It was noted that the number of licenses should be established based on the results of resource surveys and effort (i.e., full-time/part-time harvesters), and there is a need for more data on the biomass of the flats.

There are a variety of methods used by municipalities to issue licenses including:

- Tiered license fee categories, for example - Senior (free), junior/student (free), ages 17-18 ($75), and ages 18-65 ($200)

- Waiting 90 days after the annual renewal to open sales to new license holders.
- Using a lottery system.

Each town establishes their own licensing qualifications. Some examples shared include:

- Requiring documented conservation time.
- Residency requirements - proof can be provided through a variety of means such as certified letter, vehicle registration, deed/rental agreement, utility bill, etc.

Improving the licensing system

A variety of suggestions were made to improve the licensing system that could be implemented by municipalities and/or the state:

- Notify last year's license holders of the need to renew their shellfish license.
- Raise fees for non-resident licenses to help cover warden salary (there is a cap for how much higher the non-resident fee can be).
- Allow any non-resident child (younger than 16) to harvest without buying a municipal license.
- Reduce student license fees at local and/or state level to encourage students to participate in the fishery.
- Create a sovereign license to allow citizens of Tribal Nations to harvest commercially.
- Limit the number of non-resident licenses one person can hold statewide so that one individual can't hold multiple non-resident licenses.
- Create "commercial harvesting zones" and "non-commercial zones" to identify areas that could be opened without adversely impacting commercial harvesting. The non-commercial zones could be limited to seasonal access and/or the amount of harvest per day (e.g., one bushel).

Communication

Communication was raised throughout the workshop series for multiple purposes and was recognized as an important component of a successful shellfish management program. This included communication between DMR and municipalities, between wardens and harvesters, among municipalities, and with the public. Both DMR area biologists and municipal wardens were recognized as an integral part of communication with municipalities and harvesters. Creating these strong connections with the community is important so people remain engaged in conversations about the resource.

Communicating information to harvesters

Specific suggestions were made about communicating information to harvesters including:

- Developing an online apprentice training program that is required for new license holders.
- Developing an optional online training program for current harvesters to help them better understand the regulations and laws.
- Use social media platforms to keep harvesters up to date.
- Publicize contact information for area biologists and shellfish wardens so they are easily accessible.
- Provide handouts for recreational diggers with QR codes for more information.
- Promote available resources such as town websites.
- Distribute information to commercial and recreational harvesters at Town Offices when they purchase their licenses.

Public communication and outreach

As noted in the section of this report on Access to the Shore, public outreach and communication about the shellfish industry is important, especially as more new landowners move to Maine's coastal communities who may not understand the value of the shellfish industry to the community or the impact their activities have on someone's ability to make a living. Some ideas for the kinds of information that the state could generate to share with the public included:

- Education on the impact to water quality from walking dogs on the beach, and not properly cleaning up after them.
- Information on where shellfish comes from, perhaps in the form of an advertising campaign.
- Calculate the economic multiplier of shellfish both at a harvester level and then on a community level and create educational information for municipalities to utilize.

Finally, as described in more detail in the section of this report on Information for Resource Management, there was a strong desire for the state to communicate more information annually about the health of the shellfish resource.

Information for Resource Management

There were a variety of information needs identified throughout the workshops that would help municipalities better manage the shellfish resource. Concerns were raised about the lack of data for the fishery in general and that the only consistent data available is volume of landings and value. This section describes the issues highlighted regarding the assessment of the resource and the annual landings report. Additional information needs are identified in the section on Pollution Monitoring and throughout other sections of this report. This information is seen as critical to a successful shellfish management program and important to make available to foster cooperation among municipalities.

Assessment of the resource

Resource surveys are not mandated by law because of the large amount of acreage and often limited capacity of municipalities. While some suggested that harvesters naturally regulate themselves based on productivity and effort, others felt strongly that a proper resource assessment is critical. Some municipalities use a ratio of licenses informed by stock assessment results, but others do not favor this approach.

It was discussed that a method of obtaining consistent stock assessment over time (i.e., all shellfish available, including harvestable size) would greatly benefit the management of the resource. In addition to towns that conduct resource surveys, it was suggested that other towns with more limited capacity could do a more streamlined survey (i.e., sampling a smaller area and extrapolating to the whole area). Area biologists also conduct walk-over surveys, and that is seen as useful information to utilize if local capacity isn't available for more comprehensive surveys.

DMR was encouraged to consider developing a statewide "state of the fishery" report by pulling information from municipal annual reports, dealer reports and other sources to provide a better understanding of the status of the shellfish industry. However, it was acknowledged that there is limited capacity in terms of both time and resources available to accomplish this.

Annual municipal reporting

There was interest from a municipal perspective in improving the annual shellfish program reporting to evaluate what information should be collected, what information should be reported back to municipalities and across municipalities, and how to communicate the information. While the information in the annual report is important for DMR to manage the shellfish fishery, there is a lack of understanding on how that information is used besides as a formal mechanism for towns to communicate with DMR. Some municipal shellfish committees feel the annual reporting requirements are burdensome.

It is important to consider how that information is shared back with municipalities so they see value in the information. One warden asked for additional information on summons issued in the report. Another participant remarked that license allocations are more difficult without having individual landings data. A suggestion was also made to publish annual town reports on the DMR website so municipalities could learn from each other's programs. These are considered public documents and can be made available from DMR by request, but the information is not readily accessible.

Water Quality Monitoring and Shoreline Sanitary Surveys

DMR is responsible for maintaining an active water quality monitoring program and updated sanitary surveys to open shellfish flats. The issue of water quality monitoring was the focus of discussion in Brunswick in particular. The capacity and strategies to assist DMR in monitoring water quality and pollution sources are specific to each town, and vary particularly by town size/number of harvesters. In addition to shoreside activities, specific sources of pollution can include dredging and other activities upstream where communities may not realize the impact on downstream shellfish resources.

Successful monitoring and survey efforts require coordination and collaboration with DMR across shellfish conservation committee members, homeowners, volunteers, and other towns . DMR is required to conduct a shoreline survey every 12 years, though some towns do independent shoreline survey work more frequently with codes enforcement officers and wastewater officials. For example, Yarmouth works with the code enforcement officer each year to target places where there are water quality issues to address. Waldoboro has conducted water quality sampling on an accelerated schedule every two weeks in collaboration with DMR. Some towns perform annual dye testing to identify pollution sources from sewage collection systems. There were also several examples offered about wildlife and domestic pets contributing to water quality pollution.

It is important for shellfish conservation committee members and harvesters to understand who to contact to address pollution issues (e.g., municipal code enforcement officer, or DMR, Department of Environmental Protection, Department of Agriculture, Conservation and Forestry, etc). Although it was noted that DMR is usually very responsive when a municipality reaches out, it's not always DMR that has the jurisdiction to address specific pollution issues. It was also suggested that harvesters be trained for observational identification of potential pollution sources.

Communication and collaboration between the municipality and DMR to identify and address pollution sources was emphasized. Municipalities need to proactively reach out to DMR to identify priority areas they want to address for reopening closed mudflats, so DMR can direct its limited resources. Municipalities are also seeking timely communication from DMR about changes in water quality to allow towns time to identify the source and address it.

In addition, a suggestion was made at the Ellsworth meeting to separate DMR's Bureau of Public Health (BPH) from the Shellfish Management Program to allow the BPH to focus on water quality issues only and not management of the shellfish resource.

Water quality testing protocols and standards are also important for municipalities to understand so data collected locally by students, conservation groups and/or harvesters can be used to inform the state on the status of water quality.

Public education was recognized as an important component of maintaining or improving water quality for shellfish management. Community science campaigns around water quality could help with public education. For example, painting clams, lobsters, etc. on storm drains to encourage people not to dump down the drain. Educating dog walkers of the impact of fecal coliform from dogs along beaches frequently harvested for shellfish was also suggested.

Finally, incentives for landowners to clean up pollution sources and keep up with septic system maintenance, such as tax rebates, etc., were suggested. It was noted that state funds and grants exist to address failing septic systems and overboard discharge pollution.[9]

Potential Next Steps

The workshop series provided an opportunity to bring a variety of perspectives and voices together and begin a dialogue about how to strengthen the Municipal Shellfish Program. The conversations were rich and many ideas were generated along the key themes identified in this report. The following potential next steps are offered as a starting point as the ShAC considers the ideas and concerns raised during the workshop series along with other inputs.

Develop Additional Outreach and Engagement to Target Harvesters

- Although extra effort was made to attract harvesters to the workshops, and harvesters were present at each meeting, the number of harvesters who participated could have been higher. Additional outreach and engagement should be considered to solicit harvester input throughout the process.

Continue to Foster Regional Information Sharing

- There was a clear appreciation for the regional nature of the workshops. Additional workshops could focus on some of the key themes in this report to further explore joint solutions. (p.5)

Consider Approaches to Supporting Municipal Shellfish Committees

- A variety of ideas were generated on how to foster effective municipal shellfish committees, including providing guidance on membership, and assessing the value of training/education opportunities. These ideas could be explored further to determine which would have the most value to municipalities. (p.5)

[9] https://www.maine.gov/dep/water/grants/obdpara.html

- Funding mechanisms beyond municipal budgets may also be important to explore. (p.6)

Assess Effectiveness of Conservation Efforts and Share Lessons

- The state could play a role in assessing the effectiveness of different types of conservation activities (i.e., what works, under what conditions and at what cost) and consolidate recommendations to share with the towns, perhaps through a workshop. (p. 7)

Address Licensing and Permitting Complexities Related to Conservation Activities

- The amount of time and effort required by municipalities to comply with the licensing and permitting requirements for conservation activities often prevents projects from moving forward in a timely manner or at all. Options for addressing the complexities of the state aquaculture licensing process and other federal permitting requirements could be explored to support municipalities in efficiently and effectively deploying conservation programs. (p. 10)

Work with Partners to Elevate Issues of Shellfish Harvester Access

- Access to the shore is a common concern for all of Maine's coastal communities and especially important for those who depend on access to sustain their livelihood. Facilitating partnerships with those programs and organizations working on waterfront access (such as the Maine Coastal Program), sharing resources with municipalities, and assessing the economic value of shellfish resources will remain an important role for ShAC. (p.13)

Produce Information to Better Manage the Resource

- The State was encouraged to consider developing a statewide "state of the fishery" report by pulling information from municipal annual reports, dealer reports and other sources to provide a better understanding of the status of the shellfish industry. (p.16)

Develop Avenues for Improved Communication

- The purpose and utility of the annual report for both DMR and municipalities could be evaluated, including assessing the data and ways to communicate the information more broadly. (p.17)
- Methods to communicate and collaborate between the municipalities and DMR to identify and address pollution sources could be explored further. (p.19)

APPENDICES

A. Workshop Agenda, Date and Locations

Exploring Successful Program Elements and Potential Improvements to Maine's Municipal Shellfish Program
May 2022

Monday, May 2 at 12:00 pm - 3:00 pm – Curtis Memorial Library, 23 Pleasant St., Brunswick

Wednesday, May 4 at 1:00 pm - 4:00 pm – Lee Pellon Center, 90 Main St., Machias

Thursday, May 5 at 1:00 pm - 4:00 pm – Ellsworth Public Library, 20 State St., Ellsworth

Monday, May 9 at 4:00 pm - 6:00 pm – Via Zoom*; Register using link below: https://us02web.zoom.us/meeting/register/tZ0td-utpjsiGd10OXGc8Wt5EgpgaktmgpQK

More than 70 municipalities in Maine work in partnership with the Department of Marine Resources (DMR) to co-manage the shellfish resources within their towns through established municipal shellfish programs. This unique approach to community-level management of marine resources has several benefits but comes with its challenges. The Shellfish Advisory Council, with interest from DMR, is hosting a series of meetings to hear from shellfish harvesters, dealers, municipal shellfish program participants, town clerks and other municipal leaders. Come share your ideas for potential improvements to the current co-management system and how to implement an effective municipal shellfish program.

Objectives:

1. Share key components of a successful municipal shellfish program
2. Generate strategies for achieving a successful program
3. Identify possible improvements for future consideration

Agenda:

0:00 Welcome & Overview – *Laura Taylor Singer, Facilitator*

0:10 Setting the Stage for Our Conversation – *Kohl Kanwit, Department of Marine Resources*

0:30 Panel Discussion: Components of an Effective Municipal Shellfish Program

A panel session with regional representatives of the municipal shellfish community, who will share what they see as the key components of an effective municipal shellfish program with audience interaction.

Key questions:

- *What does it look like to have an effective program?*
- *What do you see as the key components for success?*

1:15 Break

Meeting participants will rotate through tables to discuss key topic areas.

Key Questions:

- *What does your municipality currently do to address this issue?*
- *What additional strategies could be used?*
- *How could municipal shellfish programs be improved to address these issues?*
- *What ways could DMR and municipalities partner for a more effective municipal shellfish program to address this issue?*

2:35 Sharing of Ideas

Each group will report back on key themes, ideas or needs for more conversation with opportunity for brief discussion.

2:55 Wrap-up and Next Steps

3:00 Adjourn

***Note:** The meeting on May 9 via Zoom will be 2 hours due to the online platform.

B. Brunswick Workshop Summary

Curtis Memorial Library
May 2, 2022

Participation

The Brunswick Workshop was attended by roughly 30 individuals, including roughly eight harvesters, two dealers, municipal employees, members of municipal shellfish committees and/or the Shellfish Advisory Committee, members of academic and science organizations, and DMR employees. Unfortunately, a group of harvesters left prior to the small group discussion, but there was still some representation by harvesters to contribute to the conversation.

Brunswick Panel Discussion

The panel included Ray Trombley, a shellfish dealer from Brunswick; Adben Simmons, a shellfish harvester and Chair of the Waldoboro Shellfish Conservation Committee; and Paul Plummer, Harbormaster and Marine Resource Administrator for the town of Harpswell. Each panelist was asked to share their insights on the following:

- *What does it look like to have an effective program?*
- *What do you see as the key components for success?*

After the initial ideas from the panel, additional viewpoints were shared by the participants.

Shellfish Committee

- Need enough people on the committee, and especially harvesters on the committee.
- Programs may be more effective if shellfish committees can work more directly with the state (rather than going through municipalities).
- Shellfish committees should be structured to address the needs of wild harvesting and harvesters need to participate in the meetings.
- Harvesters have been losing their voice to govern their own space as the composition of the shellfish committees shift with changing demographics of a municipality.

Conservation Requirements

- Keep people involved in the fishery and conservation work.
- Brunswick uses a point system to keep people active in the fishery. A certain number of points are awarded based on participation and harvesters need a specific number of points to get a license.
- Allow for more active harvester participation to have a sense of ownership of conservation work, such as through shoreline cleanups.
- Pay not to play (i.e., pay a fee in lieu of doing conservation work).

Seeding Programs and Permitting

- Delays in the municipal aquaculture leasing process impact seeding/enhancement programs. A more timely process is needed to help conservation of this public resource.
- Aquaculture leasing process should be streamlined for municipal/public use versus the requirement for a private aquaculture permit.

- Public education about shellfish harvesting and the need for the lease is lacking, so seeding projects are stalled by riparian landowners who have concerns.
- Leasing for seeding programs may be more efficient if moved from the DMR aquaculture program to the municipal shellfish program.
- Waldoboro is seeing improvements in enhancing natural stocks from their seeding efforts using an upweller.

Communication

- Communication between DMR and municipalities is key to a successful program.
- Area Biologists are an integral part of that link with municipalities and there should be more of them for this work.

Participation

- Effective programs require active participation from the harvester and others in the community.

Pollution Monitoring and Shoreline Sanitary Surveys

- Need an active pollution monitoring program and updated sanitary surveys to open flats
- Communities shouldn't repeat the survey work that DMR is doing exactly, but instead increase coverage into new areas and assess stocks.

Stock Assessments

- Proper stock assessments, and knowing what you have for a resource, is critical.
- Some municipalities use a ratio of licenses informed by stock assessment results, but others do not favor this approach.
- Resource surveys are not mandated by DMR because of the large amount of acreage and often limited capacity of municipalities.
- Harvesters naturally regulate themselves based on productivity and effort.

Access to Shore

- Improved public perception and education efforts are important.
- Shoreline cleanups can provide more visibility of the industry and help secure access.
- Airboats are now needed to access the flats and this is causing noise concerns and other issues.
- As aquaculture leases increase, there is a loss of mobility for harvesters on the flats.

Small Group Discussions

Three topics were selected for further discussion: Pollution Monitoring, Seeding Programs and Waterfront Access. Participants rotated through each of the topics and then reconvened for a brief summary.

1. **Pollution Monitoring:**

   Municipal Capacity

   - The capacity and strategies to address pollution are specific to each town, and vary particularly by town size/number of harvesters.
   - Cooperation with community management can help to increase capacity.

- It's important to work as a team with shellfish committee members, home owners, volunteers, other towns and DMR.

Landowner Incentives

- Increase incentives for landowners to clean up pollution sources and keep up with septic system maintenance (tax rebates, etc.).
- State funds and grants exist to address overboard discharge pollution.

Specific Sources of Pollutants

- Dredging – sediment can cause further suffocation of mudflats (ex. Bath Iron Works); Is there a way to identify opportunities for beneficial reuse of that dredge material?
- Up river towns – may not realize connection to the shellfish resources.
- PFAS issues (ex. Former Brunswick Naval Airbase)

Identifying Pollution Sources

- Locating sites through shoreline surveys
    - Towns have to do a shoreline survey every 10 years, though some do it more frequently
        - Ex. Yarmouth works with the code officer annually and list targeted places where there are water quality issues to address. People walk flats, to know where discharge permits are. They are funded through grants to do this work. They have opened some flats through this work.
- Conducting water quality testing
    - Usually find out about septic issues through water quality testing
        - Ex. Waldoboro conducts sampling every two weeks in collaboration with the state. However, they need to make sure there is room in the lab to run samples.
        - Boat sampling is 10x faster than shoreline testing
- Tributary testing
- Some towns perform annual dye testing
- Suggestion - Harvester training for observational identification so they can report pollution when they see it
- Wildlife and Domestic Pets:
    - Geese/duck presence is increasing and impacting Maquoit Bay water quality; waterfowl are wintering locally due to less harsh winter weather.
    - Some towns have done DNA testing (e.g., Waldoboro) through a lab at UNH to identify what species is causing the problem. DMR alerted them which sites were high, and prioritize testing those since each test is expensive (through a grant)
    - Dog waste from plows (e.g., Waldoboro – test came back showing dogs as source of fecal contamination, even though dogs are not allowed at landing. Cause was snow from sidewalks piled by landing, runoff into water. Now they clear sidewalks with a snowblower instead.)
    - Beaver issues – committee hired people to trap beavers. Dams were backing up streams, and when it rained, there was a huge influx of pollution at once.

- Dog waste on beaches – public education needed to inform owners of impact to local shellfish community and economy

Identifying Sources of Help

- Important to know who to go to (e.g., municipal code enforcement officer, or state DMR, Department of Environmental Protection, Department of Agriculture, Conservation and Forestry) to address pollution issues
- DMR is usually very responsive when the town reaches out. It's not always DMR that has the infrastructure to support addressing specific pollution issues.
- Work with the code enforcement officer during shoreline surveys, including others such as town warden, DMR, and marine resource officer.
- Towns need to proactively reach out to DMR to identify priority areas they want to address for re-opening, so DMR can direct its limited resources. DMR put them on a list and then will try to get the area opened up.

Public Education

- Should include pollution education and storm events in discussion with community members.
- Bath painted clams, lobsters, etc. on storm drains to encourage people not to dump down the drain.
- Citizen science campaigns around water quality could help with public education.
- Upstream education is also important (e.g., chlorination coming into Bath from upstream in the Kennebec (Waterville, Bangor, etc.).

Water Quality Testing Issues

- Need clearer communication from DMR about what water quality testing will be accepted by the state.
    - Can the town pay for water quality testing that is done outside of DMR, and send that data to DMR? Students, conservation points, others?
- Explore ways to give towns more control over water quality testing
- Establish protocols so volunteer groups have valid data
- West Bath – harvesters are trained to do the water quality testing and send to DMR.

Communication between DMR and Municipalities

- Importance of two-way communication. If a municipality reaches out about water quality concerns, there should be a collaborative approach to identify the cause/source, whether it is temporary/seasonal, etc.
- Need for communication in real time between DMR and communities around testing
- Municipalities need timely communication from DMR about changes in water quality and alert a municipality immediately when there is a water quality spike, rather than right before it is going to be closed. This allows towns time to identify the source and address it.
- Bigelow has a paralytic shellfish poisoning (PSP) forecast tool that is available. Looking to develop other real-time forecast products that are useful to communities and the shellfish industry.

2. Seeding Programs:

- Multiple types of seeding, no one thing works the same everywhere.
- Generally, towns in this region are moving towards quahog seeding.
- Burden on towns, particularly in terms of education around aquaculture leasing process for shellfish programs.

Leasing/Permitting Issues

- Aquaculture leasing process is a major roadblock and efforts should be made to streamline for municipalities
- Permitting issues are compromising motivation and momentum.
- DMR requires 20 days between application submission and issuance of a particular permit like transplant or conservation closure. Some towns find this difficult to plan that far in advance but others feel that 20 days is ok.
- Army Corp of Engineers (ACOE) permits add another layer of time and requirements for towns.
- Towns are trying to enhance a public resource so perhaps municipal aquaculture leasing should have a different process.
- Municipalities have responsibilities to educate the public so they understand seeding efforts.
- The municipal aquaculture leasing may better reside with DMR municipal shellfish program.

Acquiring Seed

- Seems to be more interest in hatchery seed in southern Maine
- Hatchery seed not reliable year to year - Increase local hatcheries to provide seed?
- Huge effort to transplant local seed – what are the results and is it worth it?
- All parts of the town need to participate, not just the harvesters

Regional Shellfish Seeding Programs

- Regional efforts might incentivize seeding to support others
- Independent town programs talking and working together, as opposed to joint boards

3. Shore Access:

- Smaller communities may have less issues with access based on cultivated culture of stewardships or “handshake” connections with others and self-policing of bad behavior.
- Larger programs with more harvesters may have more issues as landowners might be scared of the increased number of people on their property.
- The limited parking available also restricts access and/or creates issues with distance to the harvest areas.
- Harvesters have reported verbal and physical assault from land owners.

Improve Relationships with Land Owners

- Host a “land owner appreciation day” to put a face to the industry.
- Make it the “cultural norm” to provide access to have personal interactions for harvesters.

- Provide maintenance of land owner property in exchange for access.
- Improve the trails for the land owners.
- Provide money to help maintain private roads.

Municipal Tools and Solutions

- Shoreline clean-ups – involve other groups (schools, snowmobile clubs, etc.)
    - In West Bath, it doesn't seem to make a difference.
    - Harpswell had good participation.
    - Waldoboro has seen success.
- Enforcement should be accessible (e.g., share phone #).
- Student licenses used as training for good stewardship of access.
- Selectboard engaged in shellfish program and access.
- Host a community listening session: what are your concerns as a coastal land owner?
- Local tax breaks for people who provide access.
- Look into MDIFW "Land Share" program – town clerks provide information.

Public Education

- Require realtors to disclose working waterfront to buyers, including access to intertidal
- Calculate the economic multiplier of shellfish both at a harvester level and then on a community level and share the value with the community

State Tools and Solutions

- Add information about access to DMR door tags when conducting shoreline surveys.
- Involve other partners like land trusts, etc. in the conversation about access for shellfish harvesters.
- Stress the economic significance of the shellfish industry and create educational information for municipalities.
- Tax the intertidal.
- State organized public relations efforts to counter "community" vs "clammers".

C. Machias Workshop Summary

May 9, 2022
Lee Pellon Center

Participation

The Machias Workshop was attended by a mix of over 30 individuals, including 8 -10 harvesters, two dealers, municipal employees, several members of municipal shellfish committees and/or the Shellfish Advisory Committee, academic and science organizations, and DMR employees.

Machias Panel Discussion

The panel included Tim Sheehan, a shellfish dealer from Pembroke; Rodney Merritt, a shellfish warden from Roque Bluff; and Johnny Cox, a harvester and Chair of the Jonesboro Shellfish Conservation Committee. Each panelist was asked to share their insights on the following:

- *What does it look like to have an effective program?*
- *What do you see as the key components for success?*

After the initial ideas from the panel, additional viewpoints were shared by the participants.

Regional Approaches

- Shifting to regional ordinances from individual municipal ordinances
  - Individual municipal ordinances hinder and limit harvester potential based on residency.
  - Individual municipal ordinances complicate Co-Op opportunities for dealers, while a regional approach would make developing a Co-Op easier.
- Talking with harvesters from other towns can cultivate a better reputation with Augusta and get more ideas around price fluctuations.
- Standardized ordinance language to share with each other on pressing community issues (e.g., a warden helped rewrite ordinance to address substance use disorders - aiding and abetting with drugs may lead to losing a shellfish license).
- Communication among wardens among municipalities is important.

Price Fluctuation

- The supply and demand of clams has created multiple fluctuations.
- The major price fluctuation is experienced from March to July (including multiple 2-3 day shutdowns) before more effort shifts to lobster harvesting.
- Co-Ops could be developed to get more information before harvesting from dealers to get a better price or harvest less.

Seeding Programs

Experimental Plots

- Limited Purpose Aquaculture Lease (LPA) – requires landowner permission if within 1650 feet of property.
- LPAs are often seen as not worth the effort and often not feasible

Brushing Programs

- Brushing creates a “swell” that pulls clams down and allows for nutrients which increases productivity (i.e., wood captures spat, debris and particles while slowing down water flow).
- Hardwood brush tends to have less green crabs.
- Using brushing to increase the standing stock with a mix of limiting harvesting.
- Brushing works and can increase the viability of clam flats.
- Use of brushing requires support from the town, which isn’t always available, and also requires landowner permission to use brush from adjacent properties. Sources of brush may include:
    - A wood debris dumping site
    - Public donations from yard clean up

Strong Communication and Connection between Wardens and Harvesters

- Municipal wardens can be limited based on communication and commute.
- Wardens make strong connections with the community by being out and about.
- Creating these strong connections with the community is important so people remain engaged in conversations.

Clarity About Roles between Municipal and State Wardens

- Develop relationships between levels of enforcement to expand capacity.
- Get involved with rewriting ordinances to recognize emergent issues such as substance use disorders.

Better Information on Regulations

- Online apprentice program for new licenses?
- Could harvesters have an online training that helps harvesters understand the regulations and laws (voluntary, free)

Assessment of Resource

- How do you manage a fishery without an accurate baseline?
- Focus on future capacity for fishery.
- Layers of regulation on harvesters, so we need more information from the state about harvester practices in order to manage.
- Licensing is difficult without individual landings data, towns want more facts and figures
- Can annual reports provide catch data to communities on a flat-by-flat basis?
- Dealer reports may be more accurate as harvesters are not always truthful about where they harvest.

Town Licensing Control and Student Entry

- Student opportunities to enter fishery should be created and students should be exposed to shellfish harvesting as a job.
- Digging clams is an entry point for many marine resource jobs.
- Everyone owns a right to these clams and should have access to a license.
    - Tribal Nations have lost access based on municipal ordinances; model ordinances can create exclusivity.
    - Kids can’t get involved in clamming in the same way as before.
    - When license numbers are reduced, people become excluded from the fishery.

- Towns have the ability to manage flats (if a town decides to manage flats at all).
- Some believe open licenses will increase the number of harvesters until they over-harvest the flats.
    - Need for town license to minimize that destructive capability
    - Opening up to everybody can "destroy a livelihood"
    - Town management knows their flats and know best
- Open areas – places people can get a license wherever they want (i.e., out of town license).
    - Creates less return on investment in terms of increased pressure on the flats.
    - Unregulated mud without an ordinance is not worth investing in.
        - Only fishery that may require physical conservation activity.
    - Two harvesters digging seed can wipe out a town, thereby selling the town's future (i.e., need more small clams to equal the same weight as legal size).
- Folks may only be able to work within the clam fishery based on personal or professional capabilities, therefore preserving this space for the future is important.
    - More students should visit the mud to see that this livelihood is a possibility.
    - Could a town decrease local student license fees, or the state decrease license fees at their level?

Shellfish Committee

- Active and engaged committee is so important
- Who do you have on your committee? Does your committee engage with the community? Could your committee agree to change licensing around students and other nonresidents?
- Working with the committee makes it more possible to declare conservation areas, or work with the town to create an education program around togs, green crabs, or others.
- Run the shellfish program like a business.

Eliminating Green Crab Trapping Complexities

Public Outreach

- Need to educate on the impact to water quality of walking dogs on the beach, and not properly cleaning up after them.
- Could picking up after your pet be a potential municipal ordinance?

Access to Shore

- Outreach to coastal towns, planning committees is important so they understand the needs of shellfish harvesters.
- Working waterfront grants coordinated by state to help towns with access.
- Partnership with (the right) land trusts are useful.
- Tax break for access (like Tree Growth) through Open Space law.

Focus on Future Capacity for Fishery

- Preserve the shellfish resource?
- Changing harvester mindset
- Use data or observation to make beach and conservation decisions, for example:
    - biomass assessments

    - digger numbers
    - harvester reports
- Planning for future harvest and conservation?
    - where, when, survival, brushing

Small Group Discussions

Three topics were selected for further discussion: Conservation Activities (including seeding and brushing, etc.), Harvester Participation and Licensing. Public Access was also highly rated as an important topic for discussion. Participants rotated through each of the topics and then reconvened for a brief summary.

1. **Conservation Activities:**

Types of Activities

- Rotational flat closures
    - Seasonal (summer/winter)
    - Seed
    - Economic (highest $)
- Brushing/domes/seed traps
    - Different types of brush, use ones that last the longest
    - Domes made with manmade materials
    - Crushed lobster traps (requires an ACOE permit)
- Transplants/seeding
    - Conduct seeding in conjunction with other activities like brushing
    - Grow seed out before transplant
    - Timing is important with initial seed set (April - May) and second seed set in September
    - Use of recruitment boxes to collect seed and/or identify productive flats
- Manual or mechanized flat roughing – tilling like a garden
    - Too short term
    - Best during spawning time for largest impact.
    - Timing depends on sediment type, current/wave impact.
- Predator removal
    - Green crab trapping – reduce license hurdles
    - Promote umbrella license
- Pollution closure provides spawning stock
    - Permanent prohibited areas (WWTPs)
- Min/Max size limits
- Beach clean-ups are not considered conservation activities by some but can be used as a way for harvesters to talk to landowners and start to establish relationships.
- Promote activities that provide the biggest bang for the buck
- “Nothing works better than doing nothing”
- Scale conservation to size of town and flats

Participation

- Difficult to get people to participate
- Compensate people for conservation work
    - Reduced license fees
    - Pay them as they are giving up tide to participate
- Require conservation time
    - Set schedule in advance
    - Top five lottery winners get license with conservation time
- Student volunteers (no one under 16)
    - Kids like doing surveys more than harvesters as school groups
- No one under 16 can do conservation (or be required to) same thing with seniors (over 65)
- Cultivate ownership of work done on the flats
- Engage university students (GIS, data collection …)
- Engage students from local schools
    - Exposes all kids to fisheries, not just ones from fishing families
- Full town participation – selectmen, citizens, managers, clerk
    - Shellfish committee report to selectmen on a regular basis
    - Goodwill from activities also helps with gaining access
    - Connects shellfish industry with community

Funding

- Need funding from somewhere other than town
    - Wardens are perceived as expensive ($30k)
    - Conservation time paid – has to be competitive with profits from harvesting
    - Grants (MSRRF grants or more of them)
    - State license tax to create a research fund for communities
    - Doesn't have to be a huge amount
    - Harvesters can work with towns to increase budget, but this is difficult with other municipal demands such as schools, fire departments, or other places

Monitoring and Planning

- Monitor success of activities
    - Document and share data with other towns
- Need a plan
    - Start with map of town
    - Document activities

Public Outreach

- State provided public outreach – where does your shellfish come from?
    - Advertising campaign

2. Harvester Participation:

Conservation Activities

- Require conservation time

    - Meetings
    - Flat time
- Pay harvesters to do conservation activities
    - Pay per hour
    - License fee reduction (if this is voluntary, many harvesters will pay whole fee)
- Doubled license fees and then offered license fee reduction for conservation time
- Increase license fees so it is a penalty for folks not to participate in conservation time
    - Then use license fees to enhance the resource
- License fee reduction is better than hourly pay for conservation work because of taxes
- Some folks just don't want to participate, but some folks need proof that is helping
- Tap into outside help from school kids

Effectiveness of Conservation Activities

- Make conservation activities relatable to harvesters
    - Importance to future harvesting
- What is the most important issue to your town's harvesters?
    - Shellfish committee should focus on this
- Be consistent with activities to see results over long term
- If you do conservation activities, go back and check on it to see what happened
- Need good enforcement on conservation activities

State Role

- State should consolidate recommendations (that work) and provide to towns
- Area biologists could do conservation activities and attend meetings
- DMR assess the effectiveness of different types of conservation activities
- Area biologists are available to help assess success of projects
    - If people see conservation activities are successful, they might be more willing to keep participating.
- Number of area biologists should increase to cover scope of all the activities

Leadership

- Need someone in your program to lead the efforts
- Need set days with supervisors during conservation time.

Meeting Attendance

- To get people to attend a meeting, identify a problem that makes them mad
- Provide food
- Make good use of time so you can have shorter/fewer meetings
    - Monthly or bi-monthly meeting
    - One hour or less
    - Take certain seasons off entirely

Shellfish Seeding

- Transplant small wild seed to better growing areas
- Multiple types of seeding, no one thing works the same everywhere

- Generally, towns in this region are moving towards quahog seeding
- Burden on towns, particularly in terms of education around permit process

Other Considerations

- Dogs on beach
    - Make it illegal – who enforces?
    - Educate people that it impacts livelihoods

3. Licensing:

License Categories

- Senior (free), junior (free), ages 17-18 ($75), ages 18-65 ($200) – Cutler

Setting Number of Licenses

- Clam committee
- After 90 days, open sales
- Lottery
- 10% law

Access to License

- Open access works in some towns, doesn't work in others
- Resident licensing done early to see how many out-of-town are available
- Milbridge – open licensing for non-resident
- Folks trying to reduce license issued to limit access – "clam clubs"
- Limit the number of out-of-town licenses one person can hold – limit to one license

License Qualifications

- Conservation requirements
- Person can only hold one license
- Certified letter, vehicle registration, deed/rental agreement, utility bill to prove residency

Communication/pre-planning

- Notify last year's license holders of need to renew

Commercial harvesting zones and non-commercial zones

- Seasonal zoning for additional licensing
- Tribal Nations can't dig commercially - Sovereign licensing

Adding New Species

- Set # of license by results of resource survey and effort (full-time/part-time diggers)
- Landing data can fluctuate based on price
- Need for more data of biomass of the flat

D. Ellsworth Workshop Summary

Ellsworth Public Library
May 5, 2022

Participation

The Ellsworth Workshop was attended by 24 individuals, including three or four harvesters, several members of academic and science organizations, two municipal employees, an owner of a shellfish aquaculture business, members of municipal shellfish committees and/or the Shellfish Advisory Committee, and DMR employees. It was recognized that many people who were not able to engage in the conversation for multiple reasons and additional outreach and engagement should be considered.

Panel Discussion

The panel included Joe Porada who Chairs the Frenchman Bay Shellfish Commission and is a shellfish harvester and Raylene Pert who is a shellfish warden for the Town of Deer Isle. Each panelist was asked to share their insights on the following:

- *What does it look like to have an effective program?*
- *What do you see as the key components for success?*

Conservation Areas

- Using closed areas to protect the brood stock
- Multiple forms of data to understand brood stock, including oceanographical tools, surveys, etc., before reopening areas

Longer-term Research on Recruitment

Multi-town/Regional Approaches

- Working with adjacent towns and understanding overarching trends
- One ordinance as common (Ellsworth, Trenton, Lamoine, Hancock …)
- 60-80 license holders in the region
- Allows harvesters to move among areas and let some areas lie fallow
- Have seen increases in landings (due to rotation or price/pound?)
- Reciprocal licenses between nearby towns can cultivate regional relationships as well as share burden of effective enforcement

Seeding Programs

- Potential for future seeding of quahogs

Conservation Measures

- Consider impacts on livelihoods when contemplating maximum and minimum size limits
- Seasonal overlap of rotational closures allows for transition of harvesting

Effective Wardens and Enforcement

- Participating in meetings
- Communication with towns

Communication & Leadership

- Work with social media to keep harvesters up-to-date (needs administration)
- Successful programs require strong leadership from industry
- Conservation activities can require a "champion" who kept efforts going, and lead to harvester buy in if they result in better harvests

Missing Biological Measures

- Need more information regarding the state of the fishery - either stock assessment, more biological measures, survey, as well as foster cooperation between towns
- DMR could produce a "state stock report" to provide a state-wide status of the industry
- Limited capacity (time) and resources ($$) are currently available to do this

More Communication among Towns

Access to Shore

- Shoreline Clean-ups
- Shorefront subdivision (example of working with planning commission for access)
- Parking is an important component of access issue
- Clamming creates unique opportunities for people, we need to preserve access

After the initial ideas from the panel, additional viewpoints were shared by the participants.

Split Municipal Shellfish Program from DMR Public Health

State Management of Towns without an Ordinance

- Need to be consistent with what is required of towns
- Develop minimum standards for municipal programs that can be applied to state areas (including conservation efforts)

Improve Communication between Shellfish Advisory Committee and Local Programs

- E.g., Agendas posted earlier to allow for harvester participation

Repeal LD1519

- Limits town ordinance to between low water and high water mark
- Complicates enforcement

Permitting

- DMR should coordinate with Army Corp to streamline permit process (boxes, brushing)
- Municipal shellfish program at DMR should handle aquaculture permit requirements for conservation municipal efforts

Additional Resources to Support Shellfish Efforts

- Increase number of marine patrol wardens for state managed areas for clams
- Increase state resources allocated to shellfish fishery

Small Group Discussions

Three topics were selected for further discussion: Shore Access, Biological Measures/Stock Assessment and Additional Resources to Support Shellfish Efforts. The group was split into two and participants discussed each of the topics in small groups and then reconvened for a brief summary.

1. **Shore Access:**

Land Trusts

- Buy land outright to protect habitat and access (MCHT, DCN, BHHT)
- Pay open space taxes (not full taxes but some taxes)
- Easements (through town)

Harvester Relationships

- Keep shore clean
    - Issues with trash, needles in particular, being a problem for harvester/landowner relationships
    - Shoreline cleanups help to improve relationships
- Be visible, helpful and friendly
- Can maintain relationships with private landowners
- Handshake agreements – harder to track and more at risk
- Losing personal relationships due to land ownership changes
- Communicate with each other
- Foster relationships with realtors

Municipal Tools and Solutions

- Town ordinances can require developments to include access
    - Ex. Lamoine – ordinance to include
- Comprehensive plans – include walk in access and cultivate working waterfront
- Tax incentives for those who provide access
- Grants (e.g., DMR Coastal Program)
    - Ex. Gouldsboro – partnerships and grants to gain access

State Tools and Solutions

- State could provide model language for ordinances and comprehensive plans
- Work with state and coastal programs to track working waterfront **including** walk in access
- Create web portal that towns can contribute to which highlights different access points and share with interested land trusts
- Create partnerships, grants and resources for towns to preserve access

Other Considerations

- Prioritize safe access
- Importance of historic access
- Parking is really import as well
- Support around addiction issues (has led to loss of access)

<u>License Access</u>

- Access to licenses, relationship to ordinances and residency requirements
- Restrictions around licenses across fisheries
- Put Junior licenses in place
- Educational programs to engage kids though Sea Grant and Schoodic Summer programs

2. Biological Measures/Stock Assessment

Issue

- Lack of data for fishery in general
- Only available for landings/value
- Pollution source tracking

Information Desired

- Trends, studies, and general status report every 2 years?
- State responsibility?

Suggestions

- State of the fishery report
- Pull more information from annual reports
- Consistent cross town stock assessment over time (what is in the mud, harvestable)
    - Towns could do surveys (many do), even if just sub-sampling – that is data and respects the individual town approach
    - Area biologists do a lot of walk-over surveys and six plots – use that information (quicker than deep studies)

Communication

- Area biologists to conduct municipal shellfish activities – provide expertise/general info
    - Best people to connect state and towns
    - Need more area biologists

3. Additional Resources to Support Municipal Shellfish Management

Improved Communications

- Need for increased coordination between towns to harvesters and state to town
    - Tools:
        - Social media
        - Handouts for recreational diggers (QR codes)
        - More regional meetings
    - Promote available resources
        - Interactive web map
        - Municipal website
    - Improved Education
        - Regulations
        - Value of industry to the public
- State sharing data
    - Resource data, landings information, predator abundance
    - Publish annual town report on website
    - Annual state report publicly available for whole state re: resource surveys – requires more capacity

Increase Broodstock Methods

- Historically DMR's role was to support towns individually and that should be kept
- Regional – Seven towns with one ordinance

    - Enables broodstock protection
    - Rotational closures
    - But tensions with independence desired by some towns

Tools to Support Municipal Decision-making

- Champions and community leadership (e.g., Bridie)
- Addressing permitting issues
    - Removing aquaculture permitting hurtles to be able to have upwellers – paperwork is major obstacle requiring time and capacity (need support)
    - Streamline ACOE permits
    - Consider utilizing a permit-by-rule tool
    - Investing issue with aquaculture permits now private property due to recent court ruling

E. Municipal Shellfish Workshop via Zoom

May 9, 2022

Participation

The on-line Workshop was held via Zoom platform and attended by 28 individuals, most of whom were from academic and science organizations, with several participants who are involved in shellfish aquaculture. There were also two shellfish dealers, municipal employees, members of municipal shellfish committees and/or the Shellfish Advisory Committee, and four DMR employees.

Overview of Previous Workshops

Workshops were held in Brunswick, Machias and Ellsworth with approximately 20- 30 people at each meeting. Participants included harvesters, dealers, wardens, municipal shellfish committee members, state shellfish advisory council members and DMR area biologists and staff. Panel discussions raised a variety of components that make an effective shellfish program and offered ideas for improvements.

Based on the previous workshops, the following topics were considered for discussion through an on-line poll and the top three were discussed.

- Conservation Activities (seeding to enhance stock, biological monitoring, and State permitting requirements) (20%)
- **Shore Access Concerns (60%)**
- Building Relationship between Shellfish Wardens and Harvesters (10%)
- **Effective Shellfish Committees (60%)**
- **Communication among Towns and between Towns and DMR (70%)**
- Water Quality Monitoring and Pollution Control (40%)
- Municipal Licensing Requirements (40%)

1. Communications among Towns and between Towns and DMR

Water Quality Forecasting

- PSP (Pseudonitzchia) is important as an oyster farmer and clammer to be able to predict the future health of the resource.
- DMR works hard to figure out when and why we are going to be closed. If science is not there, they have to err on the side of being careful.
- Pollution run-off is more predictable - when it rains and when you get two inches, you know what is going to happen.
- When something is swirling off Mount Desert Rock, how soon will it come up the bay? It would be nice to have some sort of forecasting.

Annual Reporting Process

- Interest in improving from a municipal perspective: what should be collected, what should be reported back to municipalities, across municipalities. How burdensome is the annual report now and is there a possibility to make it longer, shorter?
- Area biologists are the main method of communication between DMR and towns but the annual reports are the formal mechanism
- It is vital that we fill out those reports.
    - Are we really getting the right data, or are we just after limiting license sales? What works and what does not work?
    - DMR needs this data for management.
    - Committees sometimes think this is a burdensome requirement but it is a vital one.
- Information can be helpful, but how is that information shared back at the end of the year to the municipalities?
    - How can I use this information later, especially to see what other towns are seeing?
    - How is this information being used by DMR?
    - We need to discuss how the info is used and what should be the pertinent info within it.
    - Would like more information on how many summons a municipality wrote, what kind of relationship they have with their diggers. IF others saw what this info was, it would give towns ideas to build on how to be successful.
- <u>Suggestion:</u> Review what is in annual reporting, the value of it and how it is being used. And what is coming back, how it is shared back to towns.

Regional Approach

- Reference to work being done in Frenchman's Bay with seven towns committee.
    - Doing work together in the fall after looking at our findings
    - Different municipalities sitting in the room, see what is happening in one municipality and pick location for Beal boxes, compare locations
    - Work together, learn from each other. In this past, shellfish committees have not done that.
- Area biologists in this region deserve credit for facilitating conversations

What's being Communicated is also Important

- Majority of flats are void of clams and commercial levels of clams
- Frame the conversation around: can we evaluate the effectiveness of our conversations by the measure of having commercial clams.
- Using metrics of success of shellfish program.

2. Effective Shellfish Committees

Participation

- It is all about who wants to put the energy in. You don't want just all diggers…

- Most clammers don't want to get involved in government but they want to know what is in it to help them, so flats will be more productive.
- Creating productive meetings by getting buy in from harvesters, and prove to them that you are there to help them out
- Validate people's knowledge, empower harvesters by listening to harvesters, especially those with extensive experience
- Each town decides whether to have a committee and what the committee make up is, and that is codified in ordinance, could incorporate harvesters.
- One town with no committee and other towns with just the select board making the decisions

Resources and Training

- Orderly meeting with strong chair is important; finding that key person is critical
- How to run meeting would be helpful, but that falls under the town charter, each committee can have different bylaws, but each committee operates within charter
- Stonington is trying to find the younger people to get involved.
- Opportunities for training committees in a consistent fashion?
- Running a productive meeting is a first step, but that is not talking about management of resource

3. Shore Access

Municipal Tools and Solutions

- Example: Lamoine leaders who are making connections across the various town committees working with the planning committee to elevate the importance of access for shellfish harvesters and to encourage developments to include access
- What works in one town may not work in another town.
- Many municipalities are re-doing comprehensive plans related to concerns about climate change and rising sea levels. These comprehensive plans are an opportunity to consider shoreline access in their plans. Could there be explicit guidance to include access in comprehensive plans?
- Developing a welcome to the community package and send to realtors, with a dos and don'ts for new property owners (Brunswick, MCFA is doing this type of work in Harpswell)
- Gouldsboro just got their brochures to do one modeled on Harpswell. We got a grant on water access and shore access. Reaching out to older folks who always allowed access.
- Reduction of property taxes to incentives access to the shore

State Tools and Solutions

- Statewide inventory of working waterfront

    - Could that be done for access, including walk in access
- Could there be something instituted on the state level to incentive access?
- Explore Current Use taxation program - if someone wants to ensure access, they can get a tax rebate. In its current form it would not work for shore access but could be adapted to be used as a basis for a tax program
    - https://www.maine.gov/revenue/taxes/tax-relief-credits-programs/property-tax-relief-programs/land-use-programs

Improve Relationships with Landowners

- Harvester etiquette. Incentives for good behavior.
- Best practices for going to the shore by commercial diggers related to access, parking (pollution from cars parking on beach etc.)
- Work with land trusts to maintain access, create trail system, include landowners
- Gouldsboro – hosting an event with wealthy landowners, local clams dug will be shared, we will hand out brochures to help them understand the importance of access for those clams. Neighbors will talk to each other.
- We need something more now as more and more people come in, it is more than one warden or shellfish committee can handle. We need something more substantial to sustain access.