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# Supporting Municipal Co-Management of Shellfish and Community Engagement in Casco Bay, Maine: Executive Summary

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Completed in Collaboration with the Casco Bay Regional Shellfish Working Group

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## I. INTRODUCTION

This is an executive summary of a report developed to inform municipalities participating in the Casco Bay Regional Shellfish Working Group (CBRSWG) of best practices in managing multiple species of shellfish under municipal ordinances.

### *Aim*

To provide resources for successful co-management of multiple species of shellfish in the Casco Bay region to ensure a thriving fishery and healthy marine ecosystem in the future.

### *Objective*

Identify, organize, and synthesize existing information on the management of clam fisheries in Maryland, Washington, Rhode Island, and Massachusetts. This will inform decision-making for municipalities already managing multiple species of shellfish in ordinances or considering adding species.

### *Deliverable*

A comprehensive inventory of methods being used to monitor, license, conserve, survey, and report multiple species at the local, tribal, and state level. By specifically examining Massachusetts, Rhode Island, Maryland, and Washington, the report summarizes potential applications of these findings in Maine.

## II. METHODS

In order to achieve the above deliverable, we followed the methodologies below:

1. **Conduct a literature review-** Examining existing research and information was vital to achieving our deliverable. In order to find necessary information for our deliverable, we explored state websites.
2. **Interviews-** For this step we researched the state equivalents of the Maine Department of Marine Resources for Massachusetts, Rhode Island, Maryland, and Washington, and interviewed two- to three key informants from each state. For each interview we transcribed all data from audio recordings, and compiled the necessary data into our shared Google Drive.
3. **Analyze interviews and literature review for states-** We conducted a qualitative analysis of all interview data. We coded the interviews, with unique codes for each of the five categories (conservation, licensing, surveying, reporting, monitoring), and also coding for governance style.

## III. RESULTS

Using the methodology described above, the key findings were summarized, and are included in the tables below.

**Conservation**

<b>State</b>	<b>Conservation Projects</b>	<b>Harvester Participation Requirements</b>
<b>Massachusetts</b>	Relay of clams from conditionally restricted and restricted areas <sup>1</sup> (by individual towns & state)	None
<b>Rhode Island</b>	Shellfish Management Areas and relaying of clams	None
<b>Maryland</b>	No conservation projects	None

**Table 1.** Current conservation projects and participation requirements in the clam fisheries in Massachusetts, Rhode Island, and Maryland.

**Monitoring**

<b>State</b>	<b>Monitoring and Organization Responsible</b>
<b>Massachusetts</b>	Shellfish safety: Division of Marine Fisheries Rainfall monitoring: Towns
<b>Rhode Island</b>	Shellfish safety: Department of Health
<b>Maryland</b>	Shellfish safety: State Water Quality Unit

**Table 2:** Monitoring protocols for Massachusetts, Rhode Island, and Maryland.

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<sup>1</sup>National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish (2017): Ch 5.01 <https://www.fda.gov/media/117080/download>

**Reporting**

<b>State</b>	<b>Frequency</b>	<b>Who Reports</b>	<b>Type of Data</b>
<b>Massachusetts</b>	Annual for harvesters, weekly for dealers	Harvesters and dealers	Number of bushels and location (harvesters), number of bushels per species and price (dealers)
<b>Rhode Island</b>	Every 2 weeks	Dealers	Landings in electronic database
<b>Maryland</b>	Weekly for harvesters, monthly for dealers	Harvesters and dealers	Location and date per bushel (harvesters), location, number of bushels, and sales (dealers)

**Table 3:** Measures of reporting harvest data for Massachusetts, Rhode Island, and Maryland.**Licensing**

<b>State</b>	<b>License Type</b>	<b>Per-species Endorsements Required?</b>
<b>Massachusetts</b>	Commercial Master Permit	No per-species endorsements are required
<b>Rhode Island</b>	Multipurpose, Principal Effort, Commercial Fishing	Required under principal effort and commercial fishing licenses, but not for multipurpose licenses
<b>Maryland</b>	Tidal Fish License	Yes, harvesters must obtain per-species endorsements in order to harvest

**Table 4:** Multiple species licensing protocol for Massachusetts, Rhode Island, and Maryland.

### *Surveying*

<b>State</b>	<b>Survey Type</b>	<b>Frequency</b>	<b>Standard Protocol?</b>
<b>Massachusetts</b>	Systematic biological sampling along transect	Case-by-case basis, before a dredge or pier project	Yes, towns follow state's protocol
<b>Rhode Island</b>	Suction sampling and dredge survey	Annual	Yes, done by state
<b>Maryland</b>	Dredge survey	Annual	Yes, done by state

**Table 5:** Shellfish survey frequency and type for Massachusetts, Rhode Island, and Maryland.

## **V. IDEAS MOVING FORWARD**

### *Conservation*

Maine is a leader in conservation compared to other states we interviewed. Moving forward towns should continue implementing conservation projects identified collaboratively with harvesters. Based on our results, we believe that an additional step could be exploring relaying clams from polluted areas within Maine. Relaying<sup>2</sup> involves the translocation of quahogs (or other shellfish) from conditionally restricted and restricted areas to areas with cleaner water, giving them at least 60 days to depurate as well as grow, according to the NSSP. This type of program allows for increased broodstock and recruitment for future harvest.

### *Monitoring*

One step moving forward could be to identify potential monitoring partnerships that could be created between municipalities and the state. Although there are currently partnerships involving monitoring rainfall and water quality, it is important to identify other areas in which monitoring and data sharing can be conducted between municipalities and the state.

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<sup>2</sup> For more information, please contact Gregory Sawyer, Massachusetts Senior Area Biologist at [gregory.sawyer@state.ma.us](mailto:gregory.sawyer@state.ma.us) or Dennis Erkan, Rhode Island DEM at [dennis.erkan@dem.ri.gov](mailto:dennis.erkan@dem.ri.gov)

### ***Reporting***

Both Massachusetts and Maryland require commercial harvesters to report data on number, location, and date of bushels harvested (Table 3). In Maine, the bushels harvesters sell to dealers are reported by the dealers to the state: the harvester's name and permit number, the date and time of the harvest, the harvest area, and the type and quantity of shellfish. These data are generally confidential on a town level, and thus must be aggregated with data from other dealers/towns in order to be shared publicly. If harvesters were required to report at the town level, the municipality could access and control the data. Moving forward, the CBRSWG could discuss what types of reportable data could benefit management and conservation practices. Once that is determined, municipalities can evaluate their own practices by discussing who should be responsible for reporting that data, and how often data should be reported. Increasing reporting and sharing data between towns may help inform better management and conservation practices in Casco Bay.

### ***Licensing***

As the WG continues researching best practices in managing multiple shellfish species, per-species endorsements may be an effective solution, as they have been successful in other states. However, each town should be cautious about the number of endorsements they offer for each species, as well as the total number of licensed harvesters, in order to avoid overfishing soft-shell clams or quahogs.

### ***Surveying***

All three states we researched have set standardized survey protocols for multiple species that are conducted by the state, or by trained personnel in each municipality. This increases the accuracy of surveys, and also allows data to be compared between municipalities because they are using the same survey technique. Currently, the DMR recommends the Belding method<sup>3</sup> for surveying soft-shell clams (and sometimes quahogs), but there is no existing standardized method for surveying for multiple species at once. It may be beneficial for the CBRSWG to collaborate with DMR biologists to create a standard survey protocol for towns managing multiple species, and train each person responsible for conducting surveys on that protocol.

### ***Washington State Case Study***

Though Washington utilizes tribal co-management rather than municipal co-management as in Casco Bay, there are many successful practices in Washington that can be applied to management in Casco Bay. Because of differences in species and fishery size, we chose not to include Washington in the results above. Moving forward, we suggest the CBRSWG considers the following four ideas that have been successful in Washington:

1. Standardize survey protocol between co-managers
2. Surveys designed to provide an understanding of clam population levels to inform management practices
3. Ensure active and consistent communication between co-managers
4. Enforce regulations to ensure fisheries' long-term health

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<sup>3</sup> <https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/forms/documents/SoftShellPopulationSurveyFieldGuide.pdf>

**Detailed results of this study can be found in the full report, accessible here:**

[https://static1.squarespace.com/static/58b5a5a7cd0f6887943919df/t/5efdf467842cc9218e811af5/1593701480663/Final\\_Mgmt\\_Report\\_Full\\_revised\\_062520.pdf](https://static1.squarespace.com/static/58b5a5a7cd0f6887943919df/t/5efdf467842cc9218e811af5/1593701480663/Final_Mgmt_Report_Full_revised_062520.pdf)