

Massachusetts Shellfish Initiative

2021-2025 STRATEGIC PLAN

CONSENSUS DRAFT FOR PUBLIC COMMENT

Public Comment Period and Public Meeting Schedule

The MSI Task Force will accept written public comments through **5 p.m. on Friday March 5, 2021.**

Please address all written comments to MSI Chairman Daniel McKiernan.

Written public comment may be submitted one of two ways:

- 1) Online, via google form link: <https://forms.gle/3FZNCakmfS9Cj1D56>
- 2) E-mailed under the subject “Public Comment on MSI Strategic Plan” and sent to MassShellfishInitiative@gmail.com

There is also a **virtual public meeting of the strategic plan work group scheduled for Monday February 22, 2021 at 6 p.m.**

Meeting Login Link: <https://us02web.zoom.us/j/82325439903?pwd=WlN4WWdCNjRiRDhseTdyTXZsVzROUT09>

Call In Number: +1 312 626 6799 or +1 929 436 2866

Webinar ID: 823 2543 9903

Passcode: 004581

To review recordings of the work group meetings where this document was developed and refined, visit: <http://www.massshellfishinitiative.org/documents.html#workgroup>

Last edited 02/11/2021

Executive Summary

The Massachusetts Shellfish Initiative (MSI) Strategic Plan was developed by The MSI Task Force and is the product of an iterative and collaborative process initiated with the goal of enhancing the economic, environmental, and social benefits of shellfish resources to the Commonwealth of Massachusetts and its residents. The MSI Task Force identified six objective categories under which recommendations were developed to balance the growing and competing demands for the Commonwealth's shellfish resources. The six objective categories are:

- (1) building public and stakeholder capacity to support shellfish resources and shellfish fisheries;
- (2) development of management, research, and industry resources;
- (3) supporting and promoting the cultural and historical uses of shellfish;
- (4) supporting and promoting balanced and sustainable economic opportunities around shellfish;
- (5) ensuring ecologically sound management and enhancement of shellfish resources and coastal ecosystems; and
- (6) fostering communication and coordination between local, state, and federal managers and developing improved guidance for such communication.

Public input around these objective categories was collected and synthesized into priority goals and broad recommended actions to achieve each goal. The broad recommended actions derived from public comments were refined and placed in the context of the Commonwealth's existing local and state statutory, regulatory, and fiscal landscape; as well as with regard to the diversity of the Commonwealth's coastal communities and the many stakeholders that participated through this process.

The MSI Strategic Plan identifies recommended actions that can be taken to reach the stated goals of each objective category. The Plan provides rationale, resource needs, and primary and supporting entities for each recommended action. To achieve the recommended actions, revised legislation, regulations, and additional funding, may be required. However, some of the recommended actions may require no additional funding or legislative or regulatory change, and can be enacted through local, executive, and/or legislative directives and policy shifts. A number of issues raised during the MSI process have been deemed to require continued deliberation and study before appropriate actions can be identified, and all action items will require some level of ongoing coordination between state and local government and stakeholders to ensure implementation.

The need for enhanced communication and coordination between local, state, and federal agencies and stakeholders is a recurring theme within the MSI strategic plan. A number of recommended actions within the MSI strategic plan build off of the recommended priority action of formalizing a Massachusetts Shellfish Advisory Panel (SAP; Objective 6, Goal 6.1) to provide a means of tracking progress on MSI recommended actions and as a venue for continued cooperation and communication needed to address current and future challenges facing the Commonwealth's shellfish resources and its residents. While the formalization of the SAP provides a venue to forward a number of the recommended actions within the MSI Strategic Plan, progress on the MSI goals and objectives will require continued stakeholder engagement at all levels. The Commonwealth vests significant authority over shellfish resource management at the municipal level. The recommended actions within the MSI Strategic Plan pertaining to local matters intentionally provide for flexibility to allow implementation of these actions in a manner that is consistent with the character of individual coastal communities.

Although the MSI was modeled after the NOAA Fisheries National Shellfish Initiative (NSI) and the Task Force's objective categories are in line with the NSI's goals to: (1) improve marine planning and permitting; (2) conduct and support environmental research on shellfish populations; (3) support restoration and farming techniques; and (4) prioritize coordinated and innovative financing for conservation, commercial, and research activities, the MSI Strategic Plan has been crafted to be reflective of the Commonwealth's unique characteristics and the dynamic nature of our near shore shellfish resources.

MSI Task Force Members

Dan McKiernan, Director, Mass. Division of Marine Fisheries, MSI Chair
Paul Bagnall, President, Mass. Shellfish Officers Association
Matt Charette, Director, Woods Hole Sea Grant Program
Michael DeVasto, Grower/Harvester, Wellfleet
Mark Ells, Town Manager, Barnstable
Lisa Engler, Director, Coastal Zone Management
Seth Garfield, President, Massachusetts Aquaculture Association
Jill Goldsmith, Town Manager, Chatham
Tori Kim, Director, Mass. Environmental Policy Act Office
John Lebeaux, Commissioner, Dept. of Agricultural Resources
Deb Markowitz, Mass. State Director, The Nature Conservancy
John Mitchell, Mayor, New Bedford
Michael Moore, Dept. of Public Health
Lt. Col. Pat Moran, MA Environmental Police
Senator Susan Moran
John Pappalardo, CEO, Cape Cod Commercial Fishermen's Alliance
Representative Sarah Peake
Rene Read, Town Manager, Duxbury
Sefatia Romeo Theken, Mayor, Gloucester
Dan Sieger, Exec. Office of Energy & Environmental Affairs
Martin Suuberg, Commissioner, Dept. of Environmental Protection

Acronym Glossary

CZM: Massachusetts Office of Coastal Zone Management
DEP: Massachusetts Department of Environmental Protection
DMF: Massachusetts Division of Marine Fisheries
DPH: Massachusetts Department of Public Health
EEA: Executive office of Energy & Environmental Affairs
ISA: Interdepartmental Service Agreements
ISSC: Interstate Shellfish Sanitation Conference
MO: Model Ordinance
MSOA: Massachusetts Shellfish Officers Association
NPDES: National Pollutant Discharge Elimination System
NSSP: National Shellfish Sanitation Program
OLE: Office of Law Enforcement
SAP: Shellfish Advisory Panel
WWTP: Wastewater Treatment Plant
USFDA: U.S. Food and Drug Administration

Objective 1: Building Public and Stakeholder Capacity to Support Shellfish Resources and Shellfish Fisheries

Table 1. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
<p>1.1 Improve how local and state shellfish managers communicate and engage with stakeholders</p>	<p>Increase shellfish management capacity at state and local levels as it pertains to the dissemination of information to shellfish stakeholders</p>	<p>Relevant executive branch agencies should develop public facing communications plans.</p> <ul style="list-style-type: none"> Plans should clearly outline current agency communication processes related to shellfish management and regulatory activities, and identify the locations and means by which opportunities for public comment and public notices shall be advertised. <p>Relevant executive branch agencies should provide written reports evaluating opportunities to increase stakeholder engagement and the reach of agency correspondence where appropriate.</p> <ul style="list-style-type: none"> Reports should include consideration of the increased use of methods such as social media, listservs, text, email, and phone notifications, and dedicated communications staff. Agencies should outline any challenges, and additional resources needed, to achieve identified strategies. <p>Individual municipalities should develop public facing communications plans.</p> <ul style="list-style-type: none"> Plans should clearly outline current communication processes related to their shellfish management and regulatory activities, and identify the locations and means by which opportunities for public comment and public notices shall be advertised. <p>Individual municipalities should identify opportunities to increase</p>

		<p>stakeholder engagement and the reach of correspondence where appropriate.</p> <ul style="list-style-type: none"> • The increased use of methods such as social media, listservs, text, email, and phone notifications, should be considered. Municipalities should outline any challenges, and additional resources needed, to achieve identified strategies for consideration of state support.
<p>1.2 Increase public support and awareness around the economic and ecological value of shellfish resources and shellfisheries.</p>	<p>The development of a statewide campaign to increase public awareness surrounding shellfish resources in state waters</p>	<p>The legislature and executive branch agencies should consider developing new and bolstering existing competitive funding administered by the Commonwealth aimed at supporting and prioritizing projects focused on:</p> <ul style="list-style-type: none"> • Increasing public awareness of the benefits of healthy shellfish populations. • Increasing public awareness of the nutritional benefits of shellfish as a high-quality protein source. • Educating the public on how coastal pollution or other activities can adversely impact shellfish resources.

Goal 1.1: Improving how local and state managers communicate and engage with stakeholders.

Summary

Through the public scoping process, shellfish stakeholders and the general public stated they were often unaware of or confused by state and local shellfish management activities and opportunities for participation and input. Public comments included recommendations for increased stakeholder communication on emergency shellfish closures, Vp. related illness, shellfish growing area classification and status changes, proposed regulatory changes, and state and local planning and management efforts (Aquaculture license hearings, 208 plans, conservation commission hearings, propagation activities, etc.). These comments highlighted the need to increase the capacity for stakeholder engagement and enhance transparency in the management process. In some cases, protocols for public notices and hearings are well established or strictly mandated by state law or regulation (e.g., public hearings, shellfish growing area classification changes). In other cases, public notice may require a less formal notification process, and communication is done at the discretion of the organizing body (e.g., MSI). Some municipalities have addressed communication challenges through phone, text and/or email communications with permit holders, while others rely on written mailed notices, and phone calls. In the absence of a consistent means of communication, the dissemination of information may result in a failure to get the information to the stakeholders. In turn, communication issues may lead to confusion and give the impression of impropriety. The development of formal communication plans that clearly outline current communication processes related to their shellfish management and regulatory activities, and identify the locations and means by which opportunities for public comment and public notices shall be advertised is an immediate means to help address these challenges.

Resources and/or Actions Recommended

- Dedicated staff time to the development of public facing communications plans at both the state and municipal level that clearly outline current communication processes related to shellfish management and regulatory activities, and identify the locations and means by which opportunities for public comment and public notices shall be advertised.
- Dedicated staff time and IT resources to support posting of real-time notices for status changes and closures
- Shared resources for municipalities to increase/modernize local communications capacity.
- Utilize GIS mapping capacity for easier and near-real-time access to growing area classification, status and emergency closure information.
- DMF and municipalities collaborate to identify ways to bolster closure notification procedures outlined in municipal contaminated area management plans, with consideration for:
 - Review of systems like Barnstable’s “One-Call” for phone and text alerts
 - Expedited notifications while respecting municipal-specific closures
 - Mandatory training for municipal staff/constables to support broad implementation of shellfish closure notification.
- Shared communications staff (consider a state program modeled after the Knauss Fellowship to aid efforts)
- Leverage existing communications and outreach resources (CZM, Woods Hole Sea Grant, others as identified)

Timeline

Communication plans should be developed within 6 months of finalization of the strategic plan. Plans should be reviewed at least annually to identify opportunities for further refinement and adoption of new communications tools/technology.

Lead

EEA Agencies and DPH, Municipal Shellfish Authorities

Participating Entities

Municipal select boards/councils, shellfish advisory panels, conservation commissions

Goal 1.2: Increase public support and awareness around the economic and ecological value of shellfish resources and shellfisheries.

Summary

Efforts to engage the public on the economic and ecological value of shellfish, and how their everyday actions may impact those resources and the people who rely on them are limited. Limited state funding has been provided to groups such as the Cape Cod Cooperative Extension and the State Aquaculture Centers for the development of educational materials, but funding has not been provided in a consistent manner nor have these efforts been coordinated or communicated in a regular or consistent manner. The MSI Task Force recommends that the legislative and an executive branch provide increased support for coordinated public outreach and guidance focused on the environmental and economic benefits of shellfish and the issues affecting shellfish populations and harvest opportunities.

Resources and/or Actions Recommended

- Legislative support for annualized funding of the State Aquaculture Centers with priority on stakeholder engagement and public awareness campaigns
- Legislation establishing competitive funding that directly supports awareness around the economic and ecological value of shellfish resources and shellfisheries. (note that state funds would be eligible to serve as matching funds in applying for federal Sea Grant funding at a 1:2 ratio).
- Legislative and agency directives toward modification of existing state grant programs to be inclusive and supportive of shellfish and shellfish resources
- Increased legislative support for programs directed toward shellfish and/or shellfish resources, such as annualized funding for the state aquaculture centers, the municipal seed purchase program, and additional state agency staffing and resource needs.

Timeline

- No later than the start of the next legislative session (winter 2023)

Lead

MA Legislature

Participating Offices

State Aquaculture Centers
 Cape Cod Cooperative Extension
 EEA Agencies
 Woods Hole Sea Grant
 MIT Sea Grant

Objective Category 2: Management, research, and industry development.

Table 2. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
2.1 Strengthening state and local capacity to effectively manage shellfish resources and shellfish fisheries in the face of increasing management challenges.	<p>Increase state and local capacity to maintain current classification of open areas and to re-classify growing areas for purposes of creating more shellfish harvest opportunities.</p> <p>Increase local capacity to support trained and experienced Shellfish Constables at a level commensurate with the scale of municipal need for compliance monitoring and shellfish resource</p>	<ul style="list-style-type: none"> ● Increase DMF staff capacity (FTEs) and resources (Vehicles, Boats) to meet current classification responsibilities and address new and emerging NSSP mandates for growing area classification, <i>Vibrio</i>, and aquaculture program elements, including: <ul style="list-style-type: none"> ○ WWTP/NPDES evaluation and modeling capacity ○ Growing area classification and aquaculture program staff ○ IT/data management and analysis expertise/training ● Improve methods of collaboration with municipalities to identify priority-growing areas for classification upgrades. ● Increase OLE staffing and resources – (i.e. Increase FTE cap for coastal regionals to ensure NSSP patrol requirements are met). ● Provide legislative funding or other incentive mechanisms (trust) for local support or reimbursement for municipal shellfish program efficacy (i.e. authorize funding for allocation under MGL 130 § 20& 20A) including; patrol activities,

	<p>enhancement.</p> <p>Increase the capacity of in-state laboratories for classification, biotoxin, pathogen testing, and shellfish disease monitoring to meet increased mandates, address emerging pathogens, and track shellfish disease levels and occurrence.</p>	<p>development of reporting requirements to include recreational harvest data, and shellfish resource population and habitat data/mapping.</p> <ul style="list-style-type: none"> ● Increase state capacity for the in-state testing of shellfish human health hazards, <ul style="list-style-type: none"> ○ prioritize funding toward the utilization of existing resources with sister agencies and state universities. ● Conduct an evaluation of laboratory capacity across state agencies and state universities to determine how existing resources may be leveraged to meet both research and regulatory needs. <ul style="list-style-type: none"> ○ Evaluate the need for fee-for-service or ISA agreements to utilize resources across agencies/institutions for varied needs. ○ Evaluate staffing and training needs to certify existing laboratory staff/facilities and maintain NSSP proficiencies of laboratory staff. ● Resources for training and purchasing of laboratory instruments for monitoring of biotoxins and contaminants of concern (e.g., pesticides, industrial contaminants), bacterial and viral testing, ● Improve instate shellfish disease monitoring capacity. <ul style="list-style-type: none"> ○ Expand shellfish veterinary disease diagnostic capability at in-state research institutions. ○ Create (fund and hire) within DMF a Shellfish Pathologist position
<p>2.2 Support for research focused on issues impacting shellfish resource health, public health, and shellfish production at the</p>	<p>Increase state and local capacity to fill known data gaps (recreational harvest, stock assessment) to inform effective shellfish resources management.</p>	<ul style="list-style-type: none"> ● Identify, strengthen support for or establish grant programs and prioritize projects that address pollutants prior to making it into coastal waters. Extend project timelines from 1 year to multiple years.

<p>local, state and federal level.</p>		<ul style="list-style-type: none"> ● Prioritize shellfish disease research/monitoring in state aquaculture center funding authorizations
<p>2.3 Support for resources that promote industry development, communication, market opportunities, and resiliency.</p>	<p>Ensure cooperation between state agencies (including DMF, DPH, DAR and others deemed necessary) Extension staff, Aquaculture Centers and local Boards of Health on issues like tagging, harvest and handling, direct sales and promote and host training opportunities for industry.</p> <p>Develop/refine NSSP required educational training of harvest and handling practices for commercial harvesters, wholesale dealers and local regulatory authorities including Natural Resources and/or Shellfish Officers, Boards of Health and Health Agents.</p>	<ul style="list-style-type: none"> ● Increase training and professional development opportunities related to shellfish harvest, and handling practical best management practices. ● Develop incentives/regulations/guidelines for industry to promote and implement best management practices <ul style="list-style-type: none"> ○ Develop alternative MEPA thresholds for aquaculture and propagation projects that adopt BMPs under special review procedure regulations ● Work with stakeholders, regulatory agencies and organizations to develop clear guidance and consistency on aquaculture licensing and permitting requirements ● SAP evaluate and recommend potential changes to regulations/guidelines for direct-to-consumer sales consistent with NSSP and state regulations, explore other opportunities for harvesters with expanded training and permitting ● Strengthen regulation and/or enforcement in labeling shellfish sales that may include using emerging technology at point of retail to improve traceability ● Expand educational training requirements for permitting <ul style="list-style-type: none"> ○ Develop online training tools such as video modules specifically targeting various species/industry practices. ● Educate growers on culturing opportunities beyond oysters to enhance species diversification for the industry as a whole <ul style="list-style-type: none"> ○ Requires state agency support on permitting and

		handling requirements
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Goal 2.1: Strengthening state and local capacity to effectively manage shellfish resources and shellfish fisheries in the face of increasing management challenges.

Summary

In many cases existing state and local governmental resources provide insufficient support to adequately manage the state’s shellfish resources and shellfish fisheries. This is of particular concern given the increasing complexity of management challenges related to climate change, increasing population density, shellfish harvest closures, and higher rates of veterinary disease and shellfish related human illnesses. These factors may contribute to more stringent federal management mandates that may increase the frequency and duration of shellfish harvest closures. These issues have the potential to erode the reputation and sustainability of the state’s shellfish resources and shellfish fisheries. State and local capacity to effectively manage shellfish resources and shellfish fisheries in the face of increasing management challenges needs to be enhanced. This includes increases to technical support, laboratory equipment, specialized personnel, and other resources. By enhancing the resources available to managers, researchers and industry the state may be able to meet these challenges and decision makers can help communities develop sustainable shellfish management programs. A dedicated and fully funded state shellfish laboratory would address some issues limiting the expansion of harvest opportunities as well as public health protection of emerging pathogens of concern. The tightening regulatory landscape accentuates the need for additional capacity while also providing innovative laboratory capabilities. This expansion of in-state laboratory capabilities provides efficiency for routine work and in establishing biosecurity zones for certification of in-state shellfish movement. In some cases, it may also be possible to maximize the impact of investments, through the development of Interdepartmental Service Agreements (ISA) between state agencies/universities that leverage existing expertise and resources, and the development of protocols for independent public and private testing facilities to support state/industry testing needs.

Resources and/or Actions Recommended

- Legislative and policy support for the establishment of an incentive program for effective municipal shellfish resource management programs
- A study to determine if the establishment of Interdepartmental Service Agreements (ISA) between state agencies/universities is a feasible means to maximize use and impact of state resources to support shellfish management.
- State financial and technical assistance for municipal shellfish management programs that support and incentivize robust management and comprehensive data collection at the local level.
- Bolster state shellfish laboratory capacity to support expanded classification efforts and provide novel laboratory capability for growing area maintenance/expansion, and efficiency to
- Improve shellfish disease monitoring capacity to develop data to support creating biosecurity zones for in-state movement of shellfish.
 - Expand shellfish veterinary disease diagnostic capability at an in-state research institution.
 - Create (fund and hire) within the Division of Marine Fisheries the position of Shellfish Pathologist

Timeline

- A study to determine if the establishment of Interdepartmental Service Agreements (ISA) between state agencies/universities is a feasible means to maximize use and impact of state resources to support shellfish management should be conducted with 18 months from strategic plan adoption by the MSI Task Force
- No later than the start of the next legislative session (winter 2023)

Lead

EEA
 Legislature
 DPH
 Local Board of Health Agents

Participating Entities

DMF, local municipalities

Goal 2.2: Support for research focused on issues impacting shellfish resource health, public health, and shellfish production at the local, state and federal level.

Summary

Most state agencies do not have a mandate or funding to conduct applied research and rely on academic and NGO partners for support. With increasing rates of HAB occurrence, shellfish-derived human illness and increased shellfish disease occurrence, ongoing research is needed to develop management strategies and industry tools. Further, research on state shellfish market economics is critical to understanding the capacity for shellfish industry growth. The MSI Task Force recommends where possible incentivize the funding of research focused on issues impacting shellfish economics, resource health, public health, and shellfish production.

Resources and/or Actions Recommended

- The SAP should draft and send letter to relevant agencies and funding sources, requesting that they prioritize shellfish research needs and/or dedicate funding to issues impacting shellfish resource health, public health, and shellfish production
 - The list of prioritized shellfish research needs should at a minimum include language supporting a statewide economic analysis of the shellfish industry to determine capacity for growth given new interest by municipalities to incorporate shellfish aquaculture as a nitrogen remediation nutrient management strategy.
- The SAP should specifically coordinate efforts with Sea Grant and NOAA Fisheries to prioritize shellfish research in NOAA Fisheries regional, and state Sea Grant programs, strategic planning and competitive funding opportunities.
- Expand funding to existing state programs (e.g. CZM's Coastal Pollutant Remediation Program) to increase the state's capacity to reduce stormwater impacts to shellfish beds.

Timeline

- Identification and articulation of state research priorities for funding agencies should be completed within 12 months of adoption of Strategic Plan
- No later than the start of the next legislative session (winter 2023)

Lead

SAP
Legislature

Participating Entities

Aquaculture Centers
State agencies
Municipalities

Goal 2.3: Support for resources that promote industry development, communication, market opportunities, and resiliency.

Summary

Given existing and emerging public health and shellfish veterinary health issues, there is a growing need for strict adherence to best practices for commercial shellfish aquaculture, propagation, harvest, and handling, and in some cases improved regulatory

oversight. This will require coordination between industry, state, county and local government and NGOs; enhanced training opportunities; and the expansion of laboratory capacity. The MSI Task Force encourages efforts that ensure cooperation between state agencies (e.g. DMF, DPH, MDAR and other relevant state agencies), Extension staff, Aquaculture Centers, research institutions, and local entities on issues like tagging, harvest and handling, and the development of training opportunities for industry. There is interest in supporting efforts to increase in-state hatchery capacity for shellfish propagation and aquaculture to enhance seed supply and genetic resiliency. Increased resources and capacity to the commercial shellfish industry, particularly enhanced industry collaboration, species diversification, branding and marketing opportunities, and financial support for recovering lost income are also needed to ensure the sustainability of the shellfish industry.

Resources and/or Actions Recommended

- Modify and expand existing funding and support programs associated with coastal infrastructure to include shellfish and shellfish resource development.
- Establish formal ongoing training programs and professional development opportunities that are integrated with regulatory and licensing requirements for public and private shellfish resource stakeholders.
- Incentivize increased training with added opportunities for harvester to consumer direct sales.
- Direct MDMF and MDAR to collaborate on promotion/marketing to prevent duplication and leverage efforts
- The Seaport Economic Council should work to expand state grant funding to improve shore side infrastructure specifically focused on shellfish related fisheries and aquaculture.
- Increase training and professional development opportunities related to harvest and handling focused on best management practices and regulatory compliance.
- Coordinate efforts with Sea Grant and NOAA Fisheries to prioritize the development of training programs, shellfish genetics, and shellfish market development and promotion in federal strategic planning and competitive funding opportunities.

Timeline* Ongoing

Lead

EEA

Participating Offices

DMF, DPH, DAR, Cooperative Extension, Aquaculture Centers, local Board of Health Agents

Objective Category 3: Supporting and promoting balanced and sustainable economic opportunities around shellfish.

Table 3. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
3.1 Encourage economic opportunities around shellfish, but ensure they are managed in a way that is consistent with the character and interests of individual communities.	Ensure new legislation, regulation, or policy changes do not unilaterally reduce municipal control over shellfisheries or shellfish aquaculture management.	<ul style="list-style-type: none"> • Evaluate and develop legislative funding or other incentive mechanisms (trust) for local support or reimbursement for outcome-defined municipal shellfish management programs. • SAP shall convene a working group to address outstanding and unresolved issues such as those associated with consistency in licensing and permitting including

		<p>but not limited to aquaculture license transferability.</p> <ul style="list-style-type: none"> • Future proposed changes that impact municipal control shall first be vetted through a stakeholder working group convened by SAP, prior to initiating the legislative or regulatory process.
<p>3.2 Improve and refine existing state management strategies that increase sustainable economic opportunities around shellfish resources and shellfisheries while balancing shellfish sanitation concerns.</p>	<p>Increase the state and local patrol capacity to prevent illegal harvest and ensure NSSP mandates are achieved.</p> <p>Increased and more unified Massachusetts presence within the Interstate Shellfish Sanitation Conference (ISSC).</p>	<ul style="list-style-type: none"> • Provide support for regular MSOA Shellfish Constable Trainings and subsidize the cost of the class to encourage local staff cross training. • Increase OLE FTE cap to allow for additional staffing to address NSSP patrol program element deficiencies. • Formalize patrol MOUs between the state and municipalities to address NSSP patrol program element deficiencies. • Early coordination and engagement by state and local shellfish authorities, and stakeholders on federal regulatory issues <ul style="list-style-type: none"> o Assemble and coordinate the activities of a stakeholder delegation to the ISSC through the SAP o Provide adequate support to ensure involvement and attendance at ISSC meetings • Prioritize data collection for insufficient datasets, including: recreational harvest number and shellfish population/stock assessments.
	<p>Ensure that municipal decision makers have the knowledge necessary to support use of shellfish resources.</p>	<ul style="list-style-type: none"> • Develop shellfish training for incoming municipal decision makers (select boards, conservation commission, advisory panels/committees) • Update training materials regularly to reflect any regulatory changes, new guidance, and other new information.

Goal 3.1: Encourage economic opportunities around shellfish, but ensure they are managed in a way that is consistent with the character and interests of individual communities.

Summary

The Massachusetts legislature has established a framework in state law that delegates important public health and resource management objectives related to shellfish and shellfisheries oversight to both state and local authorities. Under Home Rule, individual municipalities have the ability to develop effective innovative management strategies that are best suited to the nature of the community and local trends in resource abundance and use. The MSI Task Force recommends that SAP and MSOA convene to determine the efficacy of reinstating, possibly through Chapter 130, Section 20, an incentive program to provide financial reimbursement to municipalities with outcome-driven management plans that meet pre-identified metrics. Plans should ensure the necessary public health and resource management objectives critical to safeguarding a safe and sustainable supply of shellfish for consumption are met, access to public shellfish resources and state tidelands is maintained and negative economic impacts on markets from municipally-funded activities are avoided.

Individual communities are strongly protective of Home Rule and their municipality's management authority. A 2019 legislative proposal designed to create state-wide consistency in aquaculture license transferability was a controversial issue throughout 2019-2020 with a diversity of opinions and no resolution. Consequently, the MSI Task Force recommends that the DMF SAP convene a working group to address emerging conflicts related to Home Rule, which will provide a transparent process that fosters dialogue among competing interests and stakeholder groups. This working group should initially focus on outstanding and unresolved issues associated with consistency in licensing and permitting including but not limited to aquaculture license transferability. Stakeholders or agencies interested in proposing future legislation that would change municipal authority should notify the SAP so that the working group can be reconvened prior to any legislative proposals.

Resources and/or Actions Recommended

- If SAP and MSOA determine that the incentive program is worthwhile, they will then define and develop an incentive program, including desired municipal outcomes, metrics, and allocation process.
- SAP to convene a work group of diverse stakeholders, municipalities, and appropriate agencies to discuss and resolve issues associated with consistency in licensing and permitting.

Timeline:

- SAP Working group established within six months of the adoption of the MSI strategic plan by the MSI Task Force
- SAP/MSOA recommendation on the incentive program within twelve months of the adoption of the MSI strategic plan by the MSI Task Force. If deemed feasible, the program should be developed prior to the start of the winter 2025 legislative session to secure funding.

Lead: DMF

Participating Offices and organizations: MSOA, Legislature, Mass Aquaculture Association, Wellfleet Shellfishermen's Association

Goal 3.2: Improve and refine existing state management strategies that increase sustainable economic opportunities around shellfish resources and shellfisheries while balancing shellfish sanitation concerns.

Summary

Field and administrative challenges continue to mount due to National Shellfish Sanitation Program Model Ordinance changes, requiring increased water quality monitoring following rainfall closures, additional monitoring stations around point sources, including floating aquaculture gear that attracts birds, mandated closed safety zones and conditional classifications around WWTP discharge, and establishment of conditional classification around mooring fields. This coupled with increased public and private aquaculture activities, biotoxin and *Vibrio* related responsibilities have become a major challenge for DMF to ensure adequate capacity exists to meet NSSP requirements for maintenance of the state's shellfish growing areas with current shellfish program

staffing. There are pervasive concerns that access to shellfish growing areas will continue to be lost without increasing those resources dedicated to water quality monitoring or minimizing the negative impacts of evolving federal mandates. New, missing, and insufficient datasets prevent managers from effectively evaluating economic opportunities and impacts, which is necessary for making informed management decisions and crafting persuasive proposals and arguments for ISSC.

The recommended actions focus on activities that will increase the state and local patrol capacity to prevent illegal harvest and ensure NSSP mandates are achieved, as well as developing an increased and more unified Massachusetts presence within the Interstate Shellfish Sanitation Conference (ISSC). Enhancing state agency participation at the ISSC and NSSP will ensure that Massachusetts can adequately address emerging shellfish sanitation concerns, improve harvester access to shellfish resources, and promote sustainable economic opportunities in the state’s shellfish industry.

Resources and/or Actions Recommended

- Establish legislative appropriation to support annual MSOA Shellfish Constable Trainings and develop trainee reimbursement processes.
- Legislative support to increase the Environmental Police patrol budget.
- OLE and DMF to prioritize the completion and adoption of patrol MOUs with municipalities (Shellfish Constables, Harbormasters, WWTP operators, etc.).
- DMF SAP to establish an ISSC delegation composed of industry stakeholders, agency staff, and other interested parties, which will advance a unified, proactive agenda and defend Massachusetts’ shellfish industry. The delegation will prepare for participation at ISSC meetings, serve on ISSC committees, and engage in the annual ISSC proposal process.
- DMF to work with municipalities to develop a plan for collection for insufficient datasets that are important to quantifying shellfish economic opportunities and impacts, including: recreational harvest number and shellfish population/stock assessment numbers.
- Authorize legislative funding to develop and implement training for municipal decision makers

Timeline

- Patrol MOUs finalized prior to 2022.
- The ISSC delegation should be assembled as soon as possible. The ISSC delegation should meet prior to all ISSC meetings, with additional focus in the spring prior to the May deadline for proposals.
- No later than the start of the next legislative session (winter 2023)

Lead

DMF

Participating Offices and organizations

DPH, Constables/MSOA, Environmental Police, stakeholder leaders, Legislature

Objective Category 4: Supporting and promoting cultural and historical uses of shellfish.

Table 4. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
4.1 Protect public access to coastal waters and habitat quality in support of cultural uses of shellfish resources.	Evaluate and strengthen the current framework for the review and permitting of proposed activities that may adversely impact important coastal resources and limit public access to those resources.	<ul style="list-style-type: none"> • DMF and municipalities should work with partner agencies to develop clear guidance on aquaculture permitting requirements with consideration of protecting public access, and shellfish resources • Expand legislative support for competitive funding for social and

		<p>natural science related to shellfish resources and resource uses.</p> <ul style="list-style-type: none"> ● SAP to review and, where necessary recommend, expansion of state and federal programs that are directed at improving water quality, reducing pollution, shoreline stabilization, and nearshore shellfish habitat <ul style="list-style-type: none"> ○ Expand funding to existing state programs (e.g. CZM’s Coastal Pollutant Remediation Program) to increase the state’s capacity to reduce stormwater impacts to shellfish beds. ● Incentivize nature-based solutions to address stormwater and wastewater management that limits negative impacts to shellfish resources from coastal development and shoreline management ● Provide opportunity for tribal, recreational, and wild harvest representation on SAP.
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Goal 4.1: Protect public access to coastal waters and habitat quality in support of cultural uses of shellfish resources.

Summary

In Massachusetts there is a long history of protecting public access to marine resources (Colony Ordinances of 1640 – 1647). The protection and sustainable management of the Commonwealth’s natural shellfish resources and ensuring continued access to these historical and cultural uses of shellfish, is of great importance to the economic and environmental health of the state. Coastal development and land use practices have led to a decline of the ecological condition of many of the state’s coastal waters therefore impacting the ability of shellfish populations and their habitats to persist and have created barriers to public access. In order to ensure public access is maintained and that healthy shellfish resources remain in areas that are classified as open to harvest, land-based pollution sources need to be addressed. Local shellfish management is impacted by a rotating collection of municipal decision makers who are often elected or appointed (Select Boards, Conservation Commission, Shellfish Advisory Committees); these decision makers may or may not have adequate knowledge of shellfish resources to make fully informed decisions and would benefit from standardized training.

Resources and/or Actions Recommended

- Establish legislatively authorized incentives and/or grant programs that effectively reduce pollutants in coastal waters.
- Legislative support for applied shellfish research at State Universities and other entities that encourages field studies useful to resolving long-standing questions on impacts to shellfish habitat, shellfish resources, and public access from coastal development.
- Expand funding to existing state programs (e.g. CZM’s Coastal Pollutant Remediation Program) to increase the state’s capacity to reduce stormwater impacts to shellfish beds.
- DMF to formalize aquaculture site inspection/application requirements and municipal propagation efforts related to the protection of public access and existing resources, for example using the best available science to determine the threshold density of shellfish occurring within a proposed project area and distance buffers to valuable habitat such as eelgrass.
- EEA to direct the Seaport Economic Council to prioritize projects that create or maintain public access infrastructure for shellfishing, particularly parking and landing sites.

Timeline: Next legislative session (winter 2023)

Lead: SAP

Participating Offices: Legislature, EEA, DMF

Objective Category 5: Ensure ecologically sound management/enhancement of shellfish resources and coastal ecosystems.

Table 5. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
<p>5.1 Ensuring shellfish and coastal restoration efforts are designed to consider animal health and management implications, and do not result in adverse economic impacts to existing industry</p>	<p>Develop cross-agency and cross-stakeholder consensus on best management practices when using shellfish in 208 plans*, to include shellfish industry, municipal departments, CCC, EEA and DPH.</p> <p><i>*208 plans refer to area-wide water quality management plans, developed pursuant to Section 208 of the Clean Water Act.</i></p>	<ul style="list-style-type: none"> ● EEA to launch a working group to develop state-wide BMPs and contribute to other recommended actions. <ul style="list-style-type: none"> ○ Consideration should include the establishment of requirements and/or regulations associated with propagation or restoration efforts that limit negative impact on existing markets from the sale of shellfish from municipal nutrient mitigation projects and strategies. ● Executive Branch or Legislature should require an evaluation of individual and cumulative economic impacts associated with shellfish planted to meet reduction goals in 208 plans (modify Section 208 Clean Water Act statute requirements, DEP review, and regional planning review). ● DMF to update Shellfish Planting Guidelines specific to shellfish propagation and restoration efforts to include clear requirements for seed source approval and pathology testing. ● Establish requirements and/or regulations associated with propagation or restoration efforts that limit negative impact on existing markets from the sale of

		<p>shellfish from municipal nutrient mitigation projects and strategies.</p> <ul style="list-style-type: none"> • Develop metrics to account for nutrient remediation provided by private shellfish aquaculture, propagation and harvest, and shellfish habitat restoration.
<p>5.2 Greater support for shellfish and coastal restoration efforts by developing minimum standards and further best practice guidance, examine and revise as needed restrictions on restoration activities in contaminated waters, and a requirement that restoration efforts demonstrate balance between shellfish fisheries interests and public health.</p>	<p>Expand opportunities for ecosystem-based restoration efforts focused on the improvement of shellfish habitat (spat on shell, cultch, reef development) and the development of self-sustaining brood stock populations (sanctuaries), alongside put-and-take style efforts</p>	<ul style="list-style-type: none"> • DMF should evaluate current restrictions on shellfish restoration activities in contaminated waters where appropriate and assess resource needs (i.e, patrol) and/or statutory and regulatory changes that would allow for restoration of wild and native populations of shellfish in contaminated waters that could serve to support recreational and commercial shellfishing opportunities in adjacent open areas. <ul style="list-style-type: none"> • Increase staff patrol capacity to allow restoration activities in all classifications • Develop clear guidance on propagation and restoration requirements • EEA agencies to execute a review of grant programs that are related to improving coastal water quality <ul style="list-style-type: none"> ○ As warranted, increase funding for relevant grant programs, modify grant terms and prioritize projects that address pollutants prior to making it into coastal waters.

Goal 5.1: Ensuring shellfish and coastal restoration efforts are designed to consider animal health and management implications, and do not result in adverse economic impacts to existing industry.

Summary

A few communities have recently begun to increase private shellfish aquaculture opportunities and expand propagation planting specifically to help meet federal standards related to nutrient remediation in coastal waters. While most of the communities that have been approved to include shellfish planting into their nutrient mitigation plans are still in the pilot phase, the prospect of wide-scale implementation across the Commonwealth has raised concerns of municipal programs competing with private industry.

Specifically, industry members and municipalities have highlighted that increased planting of municipal-funded seed and subsequent harvest associated with nutrient mitigation efforts may have negative impacts on market prices. The scale of what is being proposed far exceeds what is currently being harvested and sold statewide. Without new oyster markets beyond the half shell market, there is concern that this may depress wholesale prices to the point that it may not make sense economically to continue to farm. Towns will need to continue growing and harvesting to meet nitrogen removal commitments, and as supply starts to exceed demand they may have to subsidize these businesses leading to additional non-competitive practices. An exception might be if this could be done with

quahogs (or other species) in place of oysters, but it is not clear if there is sufficient bottom space in these estuaries to grow enough quahogs to meet nitrogen removal needs or if the quahog market could absorb the additional supply without negative market impacts. A preferred alternative could prioritize the use of alternative shellfish species (not oysters or quahogs), or send 208 shellfish to alternative (shucked product) or non-commercial markets. In addition, concerns have been raised that such projects may result in unintended animal health, human health, and management consequences. The MSI Task Force recommends the initiation of a working group to develop guidance including requirements related to the MEPA Certification of municipal efforts directed at nutrient remediation.

Resources and/or Actions Recommended

- DMF to consult with its legal team to determine 1) which agency has authority over any new regulations related to sale of shellfish grown for nitrogen mitigation, and 2) a pathway to allow towns to donate shellfish raised for nutrient mitigation.
- EEA to launch a Work Group composed of diverse stakeholders, appropriate federal, state, regional, and local agencies, and municipalities, and others as necessary, to develop guidance and seek consensus related to municipal nutrient remediation that includes shellfish.
- Legislature to direct and fund EEA agencies, DPH, and other agencies as necessary to oversee an objective economic market analysis of the shellfish industry in MA, to quantify the impacts of nitrogen mitigation projects on the shellfish industry, and inform the development of recommendations for regulations and/or best management practices.

Timeline: Working group established within six months of the adoption of the MSI strategic plan by the MSI Task Force

Lead: EEA

Participating Offices: EEA Agencies, DPH, CCC, Legislature, Municipalities, stakeholders

Goal 5.2: Greater support for shellfish and coastal restoration efforts by developing minimum standards and further best practice guidance, revising restrictions on restoration activities in contaminated waters, and a requirement that restoration efforts demonstrate balance between shellfish fisheries interests and public health.

Summary

A number of communities conduct shellfish propagation activities as a means of restoring degraded shellfish populations and enhancing their coastal ecosystems via shellfish restoration, though restrictions on this practice have led to limited implementation. Water quality and estuarine habitat are important factors in functional coastal ecosystems. Land-based restoration and management (one example, cranberry bog restoration) can have a significant impact on coastal ecosystems. To address significant environmental challenges, shellfish restoration can play a meaningful role in improving the condition of coastal water bodies. Shellfish play an important role in coastal ecosystems and the MSI Task Force recommends that relevant EEA agencies revisit restrictions on shellfish restoration activities in contaminated waters and allow for the development of shellfish sanctuaries to protect broodstock through harvest management closures that could serve to support recreational and commercial shellfishing opportunities in adjacent open areas. Additionally EEA agencies should review and revise permitting requirements related to placement of cultch as a component of shellfish restoration/propagation.

Resources and/or Actions Recommended

- Conduct national analysis of shellfish habitat restoration programs in order to inform revision of state level guidance/policy on shellfish habitat restoration and management in all classification areas. Review other states' policies related to establishment of no harvest areas, and planting of shellfish in areas closed to harvest. Identify resource needs (such as harvest enforcement (OLE, Municipal natural resource staff)) to effectively manage such activities to ensure animal and public health. Identify areas suitable for shellfish restoration from ecological and public health perspectives.
- EEA Agencies to review state and federal grant programs designed to improve water quality and estuarine health and where appropriate request state and federal legislative increases in funding for restoration projects that improve water quality.

Timeline: completed 18 months from adoption of MSI strategic plan.

Lead: EEA Agencies

Participating Offices: DPH, NGO Partners

Objective Category 6: Foster communication and coordination between community groups, local, state and federal managers and developing improved guidance.

Table 6. Goals, Strategies and Recommended Actions

Goals	Strategies	Recommended Actions
<p>6.1 Developing and strengthening means of communication between managers, regulators and community groups both within and across all levels of government.</p>	<p>Charge a more formalized Massachusetts Shellfish Advisory Panel to continue post-MSI work and to provide a venue for cooperation and communication to ensure follow through on MSI objectives and to address future challenges that require interagency coordination.</p>	<ul style="list-style-type: none"> ● Formally constitute a MA Shellfish Advisory Panel that shall be inclusive of shellfish stakeholders so that it may provide a forum for all regulatory, economic and social aspects of MA nearshore shellfish resources. ● Annually assess MSI strategic plan progress and initiate recommended actions, including outreach to lead and participating offices and entities. ● Constitute and support workgroups related to unresolved and/or ongoing issues affecting the shellfish industry. ● Develop, promote and recommend common templates, programs and standard practices relative to the management of MA shellfish resources.

Goal 6.1: Developing and strengthening means of communication between managers, regulators and community groups both within and across all levels of government.

Summary

It is important to continue developing means of ensuring increased communication between managers and regulators within and across levels of government. There should be an identified means of continuing communication beyond the MSI to ensure follow through on MSI objectives and to provide a venue to address future challenges that require interagency coordination. The MSI Task Force recommends the development of a post-MSI working group to provide a venue for cooperation and communication to ensure follow through on MSI objectives and to address future challenges that require interagency coordination. This should include participation by agencies such as the Department of Public Health that fall under a different Secretariat but have a significant role in shellfish management. DMF formed an informal Shellfish Advisory Panel in 2014 that has served as a means for state agencies to

communicate important information related to shellfish management. Formalization of this group may serve as a means to continue discussions on current unresolved and future issues beyond the timeline of the MSI.

Resources and/or Actions Recommended

- SAP will be formalized by the Legislature.
- SAP should meet no less than twice annually through in person or electronic platforms and should be adequately authorized to effect shifts in policy, regulation and legislative oversight related to MA near shore shellfish resources and industries.
- Working group meetings should be open to all to listen in, and should be advertised through DMF communication channels.
- SAP should include representation from the breadth of MA near shore shellfish stakeholders. Similar to the composition of the MSI Task Force, the SAP should include representatives from the suite of executive branch agencies, legislators, municipal interests, commercial (aquaculture and wild) and recreation harvesters.
- SAP Workgroups should include broader stakeholder participation, beyond SAP membership.

Timeline - Initiate no less than 6 months from release and approval of the MSI Strategic Plan. Ongoing implementation meeting no less than twice annually.

Lead

- Division of Marine Fisheries

Participating MA State Offices

- Massachusetts Legislature
- Massachusetts Office of the Governor
- Dept Public Health
- Coastal Zone Management
- Mass Shellfish Officers Association
- Mass Environmental Policy Act Office
- Dept of Agricultural Resources
- Mass Environmental Police
- Dept of Environmental Protection

CONCLUSION & NEXT STEPS- to be drafted after public comment period

OVERARCHING TIME LINE - to be drafted after public comment period

APPENDIX 1: [MSI Scoping Committee Report](#), [Appendix A](#), [Appendix B](#)

APPENDIX 2: [MSI Assessment Committee Report](#)