

**STATE OF MAINE**  
**DEPARTMENT OF MARINE RESOURCES**

**David Wilson**  
**CAS MBx**

Experimental Aquaculture Lease Application  
Suspended Culture of Shellfish  
Casco Bay, Harpswell, Maine

**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION**

David Wilson applied to the Department of Marine Resources (DMR) for a three-year experimental aquaculture lease located in Wilson Cove, in Casco Bay, Harpswell, Cumberland County. The proposed lease is 3.92<sup>1</sup> acres and is for the suspended cultivation of hard clam/quahog (*Mercenaria mercenaria*), soft-shelled clam (*Mya arenaria*), and Atlantic razor clam (*Ensis directus*) for commercial aquaculture research and development.

**1. PROCEDURAL HISTORY**

DMR accepted the application as complete on April 14, 2022. Notice of the application and the 30-day public comment period was provided to state agencies, riparian landowners within 1,000 feet of the proposed site, the Town of Harpswell and its harbormaster, and others on DMR's email listserv. Notice to the municipality included a Harbormaster Questionnaire requesting information related to designated or traditional storm anchorages, navigation, riparian ingress and egress, and fishing or other uses of the area, among other considerations. Notice of the complete application and comment period was published in the May 6, 2022, edition of *The Forecaster*. Title 12 M.R.S.A. §6072-A (6) provides that the Commissioner shall hold a public hearing if five or more persons request a public hearing within the 30-day comment period. Only one request for a public hearing was received during the comment period, and no hearing was conducted. The evidentiary record regarding this lease application includes the application, DMR's site report dated August 28, 2023, and the case file. The evidence from each of these sources is summarized below.<sup>2</sup>

**LIST OF EXHIBITS**

1. Case file
2. Application

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<sup>1</sup> Applicant originally requested 4.0 acres. DMR calculations indicate the area is 3.92 acres.

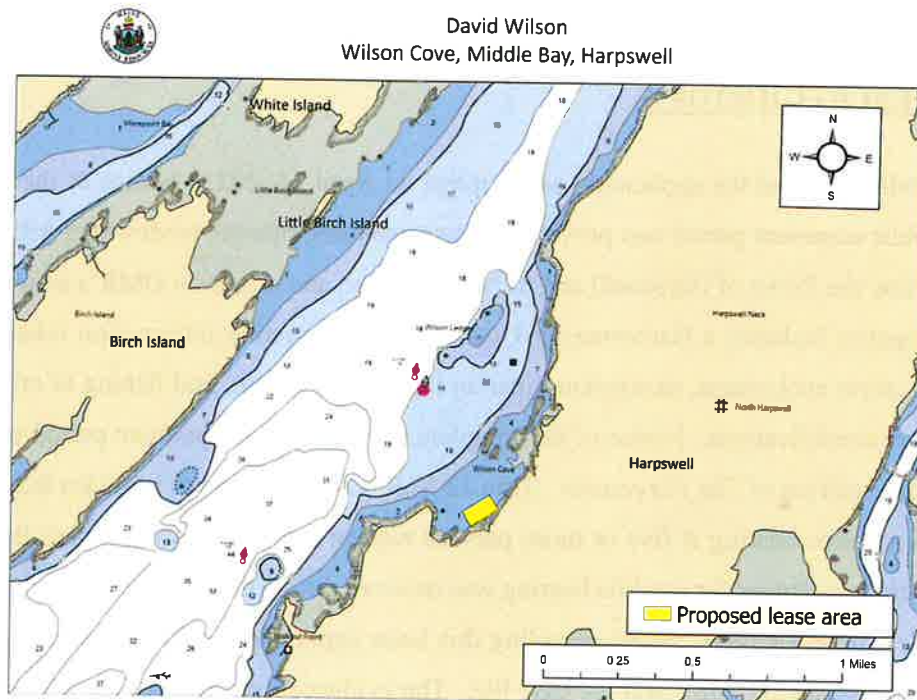
<sup>2</sup> These sources are cited, with page references, as App (Application), CF (case file), and SR (site report).

3. DMR site report, issued on January 5, 2024

## **2. DESCRIPTION OF THE PROJECT**

### **A. Proposed Operations**

The purpose of the proposed experimental lease site is to determine if it is suitable for aquaculture (App 3). The applicant is proposing to culture three species of clams using a maximum of 2,000 bottom cages (two sizes: 4-foot by 3-foot by 4-foot, and 45-inches by 41-inches by 23-inches) and 2,000 mesh grow bags (40-inches by 21-inches), as well as mooring gear and marker buoys (App 12). The gear will remain on the seafloor year-round (App 4). The applicant intends to tend and harvest year-round (App 3). Seeding, harvesting, and maintenance would occur up to seven days per week (App 4). No machinery is proposed for on-site use (App 5). The applicant is proposing to access the proposed lease site via an 18-foot Lund, an 18-foot CHawk, or a 24-foot airboat (App 13).<sup>3</sup>



**Figure 1:** Vicinity map. Image generated by DMR staff.<sup>4</sup>

<sup>3</sup> DMR received some comments noting that airboats are noisy and permitting Mr. Wilson to use one would be disruptive. However, this is an experimental lease application, so noise impacts are not one of the legal criteria that DMR must consider in its evaluation of the proposal. 12 M.R.S.A. § 6072-A(13); Ch. 2.64(11)(A). DMR also notes that the Maine Department of Inland Fisheries and Wildlife (MDIFW) has the authority to regulate noise generated by airboats. However, an airboat is no longer proposed.

<sup>4</sup> Unless otherwise noted, all figures in this report were created in ArcGIS Pro version 2.9 using digitized NOAA Nautical Charts or geo-referenced aerial photographs provided by The Maine Office of GIS.

On April 16, 2024, DMR sent a copy of the proposed decision to Mr. Wilson for review in accordance with Chapter 2.35(1). Mr. Wilson responded the same day stating that he had accidentally included the use of an airboat with the application but would not be using one. Therefore, if the lease is granted, Mr. Wilson would only access the proposed site via an 18-foot Lund or 18-foot CHawk.

**B. Site Characteristics**

On October 4, 2023, DMR scientists assessed the proposed lease site beginning at 9:05 AM. The shoreline of Wilson Cove, in the vicinity of the proposal, consists of residential uplands with a rocky coastline and muddy substrate on the seafloor.

DMR scientists began collecting depths at 9:09 AM at the proposed site, which was approximately five minutes before low tide. Measured depths at corners of the proposed lease site ranged from 0.0 to 4.4 feet. Correcting for tidal variation derives water depths at mean low water (MLW, 0.0 feet) to be from 0.0 to 3.6 feet. The proposed lease is partially located within the intertidal zone.

Pursuant to 12 M.R.S.A. §§6072(4)(F) and 6072-A(8), the applicant is responsible for including written permission of every riparian owner whose land to the low water mark will be used to access the proposed lease site. The applicant provided written permission from the applicable riparian landowner for use of their intertidal property (App 30-33).

Predicted tidal heights in South Harpswell, Maine.<sup>5</sup>

Date	Time	Height (ft)
2023/10/04	3:20 AM	9.1 H
2023/10/04	9:14 AM	0.8 L
2023/10/04	3:31 PM	9.8 H
2023/10/04	9:58 PM	0.0 L

**2. STATUTORY CRITERIA & FINDINGS OF FACT**

Approval of experimental aquaculture leases is governed by 12 M.R.S.A. §6072-A. This statute provides that a lease for commercial aquaculture research and development or for scientific research may be granted by the Commissioner of DMR upon determining that the project will not unreasonably interfere with the ingress and egress of riparian owners; with navigation; with fishing or other uses of the area, taking into consideration other aquaculture uses in the area; with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna; or with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal

<sup>5</sup> <https://www.us harbors.com/harbor/maine/south-harpswell-me/tides/?tide=2023-10#monthly-tide-chart>

governments. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site.

#### **A. Fishing & Other Uses**

**Fishing.** When examining fishing and other uses, the Commissioner considers whether the lease activities would unreasonably interfere with commercial or recreational fishing or other water-related uses of the area (12 M.R.S.A. § 6072-A(13)(C); Chapter 2.37(1)(A)(3))<sup>6</sup>. Additionally, the Commissioner considers any evidence concerning other aquaculture uses of the area (Chapter 2.37(1)(A)(4)).

During the site visit, DMR documented three lobster buoys in the vicinity of the proposal. The lobster buoys were approximately 516 feet, 572 feet, and 1,065 feet from the proposal. DMR observed sparse lobstering activity to the west of the proposal, located closer to the main navigational channel. Additionally, at the time of the site visit, DMR observed individuals actively working on aquaculture lease site MID WCx located northwest of the proposal.

The application states that menhaden and striped bass fishing occur in the deeper waters of Middle Bay, outside of the proposed project boundaries (App 5, 6).

The Town of Harpswell has a shellfish conservation program in accordance with 12 M.R.S.A. §6671 and because the site is partially within the intertidal zone, the applicant is required to obtain consent of the municipal officers (12 M.R.S.A 6072-A(11)).<sup>7</sup> The applicant provided evidence of municipal consent with the application (App 29). The local harbormaster stated that both commercial and recreational shellfish harvesting have historically occurred in Wilson Cove, but that a shellfish survey conducted by the Town of Harpswell in the last three years indicated there is little to no product currently available in Wilson Cove.<sup>8</sup>

In evaluating fishing, the commissioner must consider the following pursuant to Chapter 2.37(A)(3):

The Commissioner shall examine whether the lease activities would unreasonably interfere with commercial or recreational fishing or other water-related uses of the area. This examination shall consider such factors as the number of individuals that participate in recreational or commercial fishing, the amount and type of fishing gear utilized, the number of actual fishing days, and the amount of fisheries resources harvested from the area.

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<sup>6</sup> 13-188 C.M.R. ch. 2. The Commissioner considers the applicable criteria contained in Chapter 2.37 pursuant to Chapter 2.64(11)(A).

<sup>7</sup> DMR interprets consent to mean a majority vote of elected officials approved of the proposal as recorded in a public meeting.

<sup>8</sup> Harbormaster questionnaire received by DMR on May 10, 2022.

No comments regarding impacts to fishing were received by DMR. Additionally, no concerns were expressed by the harbormaster about impacts from the proposed lease on fishing in the project area.

Therefore, it is reasonable to conclude that the proposed lease will not unreasonably interfere with commercial and recreational fishing activities in the area.

**Other uses.** According to the application, some kayaking occurs in deeper water, outside of the proposed project boundaries (App 6). According to the Harbormaster Questionnaire, there is little to no boating within the proposal boundaries. Some riparian landowners that own recreational vessels may traverse the area, but their ability to do that is limited by the proposal's location partially within the intertidal zone. DMR received a public comment stating that kayaking, canoeing, paddleboarding, and swimming occur in Wilson Cove. It also notes that some vessels anchor in the cove overnight during the summer months. The comment states that these activities would generally be lost due to impacts from aquaculture within Wilson Cove and that the cove should be protected.<sup>9</sup> The comment described activities that occur throughout Wilson Cove. At MLW, depths would range from 0.0 to 3.6 feet (SR 2). Water depths conducive to the activities described by the commenter would only be possible within the boundaries of the proposed site at certain tidal stages. Furthermore, all gear would remain on bottom at every tidal stage, so activities could continue to occur within the boundaries of the proposed site so long as the water depths were sufficient. The Harbormaster Questionnaire states that some boating may occur within the proposed site, but it is limited to riparian owners and further hindered by water depths at the proposed site. The application also states that activities like kayaking occur in deeper waters outside the boundaries of the proposed site. In consideration of this evidence, the proposal would not unreasonably interfere with other water related uses.

**Other aquaculture uses.** In evaluating other aquaculture uses, the commissioner must consider the following pursuant to Chapter 2.37(A)(4):

The Commissioner shall consider any evidence submitted concerning other aquaculture uses of the area. The intensity and frequency of such uses as well as the degree of exclusivity required for each use shall be factors in the Commissioner's determination of whether any interference is unreasonable. The number, size, location, and type of other aquaculture leases shall be considered by the Commissioner.

There are no aquaculture leases or limited purpose aquaculture (LPA) sites within 1,000 feet of the proposal and DMR did not receive any comments concerning other aquaculture sites in the area.

**Therefore,** the activities proposed for this site will not unreasonably interfere with fishing or other water related uses of the area, including other aquaculture related uses.

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<sup>9</sup> Jerrie Will email to DMR, dated May 25, 2022.

## **B. Navigation**

When examining navigation, the Commissioner considers whether the lease activities would interfere with commercial or recreational navigation around the lease area and considers the current uses of the navigational channels in the area. 12 M.R.S.A. § 6072-A(13)(B); Chapter 2.37(1)(A)(2).

The main navigational channel is located approximately 2,000 feet to the west of the proposal. Red navigational buoy “12” is located approximately 2,480 feet to the northwest of the proposal. During DMR’s site visit, one barge was observed navigating to the west of the proposed site in the main navigational channel.

In evaluating navigation, the commissioner must consider the following pursuant to Chapter 2.37(A)(2):

The Commissioner shall examine whether any lease activities requiring surface and or subsurface structures would interfere with commercial or recreational navigation around the lease area. The Commissioner shall consider the current uses and different degrees of use of the navigational channels in the area in determining the impact of the lease operation.

A Harbormaster Questionnaire was sent to the Town of Harpswell, and the local harbormaster responded on May 10, 2022, stating the location of the proposal should have little to no effect on navigation. It also stated that “little to no commercial or recreational boating occurs within the proposed boundaries” and navigation would further be limited by the intertidal nature of the site. DMR noted water depths of 0.0 to 4.4 feet at the time of the site report. Gear will remain on the seafloor year-round (App 4).

During the comment period, the Department received a comment from a member of the public stating that, if approved, the proposed lease would increase the amount of commercial boat traffic in the area as the applicant would be visiting the site on a regular basis. However, no specific concerns about navigation were expressed.

**Therefore**, the aquaculture activities proposed for this site will not unreasonably interfere with navigation.

## **C. Riparian Access**

Before granting a lease, the Commissioner must determine that the proposed project “will not unreasonably interfere with the ingress and egress of riparian owners[.]” 12 M.R.S.A. § 6072-A(13)(A).

During the site visit, DMR observed two moorings and two docks within 1,000 feet of the proposal. One mooring was located 497 feet west of the proposal and was vacant at the time of the visit. The other mooring was 557 feet west of the proposal, also vacant at the time of the visit, and was marked for removal.

One dock, which had a dinghy attached, was located approximately 633 feet west of the proposal. The other dock was located approximately 229 feet northeast of the proposal. DMR observed two unknown buoys located approximately 355 feet and 850 feet north of the proposal. One buoy was labeled “CBM SUM” and the other was labeled “CBM KAM”. It is possible the two unknown buoys could be active moorings, but based on the time of year DMR conducted the site assessment, the mooring ball could have been removed for overwintering.

The eastern and southern corners of the proposed lease area are located within the intertidal zone. In accordance with applicable law, the applicant needs to obtain the written permission of every owner of intertidal land in, on, or over which the lease activities will occur. The applicant received the necessary permission from the applicable riparian landowner for use of their intertidal property (App 30-33).

In evaluating riparian ingress and egress, the commissioner must consider the following pursuant to Chapter 2.37(A)(1):

The Commissioner shall examine whether the riparian owners can safely navigate to their shore. The Commissioner shall consider the type of shore involved and the type of vessel that can reasonably land on that shore. The Commissioner shall consider the type of structures proposed for the lease and their potential impact on the vessels which would need to maneuver around those structures.

The Harbormaster Questionnaire states that some riparian landowners traverse the cove in recreational vessels, but that they should be able to both navigate a vessel and walk the mud flats to and from their property [should the lease be approved].

During the comment period, DMR did not receive any comments from riparian owners stating that access to their shorefront property including moorings would be adversely impacted by the proposal.

**Therefore**, the aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner.

#### **D. Flora & Fauna**

When examining existing system support, the Commissioner considers the degree to which the use of the lease site will interfere with significant wildlife habitat and marine habitat or with the ability of the lease site and marine and upland areas to support ecologically significant flora and fauna (12 M.R.S.A. § 6072-A(13)(D); Chapter 2.37(1)(A)(5)).

On October 4, 2023, DMR conducted a video transect utilizing a remotely operated vehicle to assess the epibenthic ecology of the proposed lease. The relative abundance of epibenthic flora and fauna observed is described below. Additionally, DMR observed American crow (*Corvus brachyrhynchos*),

herring gulls (*Larinae argentatus*), and black guillemot (*Cepphus grille*) in the general vicinity of the proposal.

Species observed during site assessment

Species Observed	Abundance
Hermit Crab ( <i>Pagurus</i> sp.)	Common
Seaweed ( <i>Ascophyllum</i> sp.)	Occasional
Northern Shrimp ( <i>Pandalus borealis</i> )	Occasional
American Oyster ( <i>Crassostrea virginica</i> )	Occasional
Crab ( <i>Cancer</i> sp.)	Occasional

**Eelgrass (*Zostera marina*)**

Data collected by the Maine Department of Environmental Protection (MDEP) and Casco Bay Estuary Partnership (CBEP) in 2022 indicates no mapped eelgrass presence in the vicinity of the proposal.<sup>10</sup> No eelgrass was observed during DMR’s site assessment (SR 8).

According to Geographic Information System (GIS) data maintained by MDIFW and available through the Maine Office of GIS (MEGIS), the proposed lease is located approximately 1,900 feet to the northwest of mapped tidal waterfowl and wading bird habitat. Data collected by the United States Fish and Wildlife Service in 2023 by aerial nest survey<sup>11</sup> shows the closest mapped bald eagle nesting site to be approximately 1.3 miles northwest of the proposal.

On May 6, 2022, a Wildlife Biologist with MDIFW responded by email to a “Request for Agency Review and Comment” stating minimal impacts to wildlife are anticipated for this project.<sup>12</sup>

DMR received a public comment stating that the project area is utilized by wildlife including seals and waterfowl. However, no further information demonstrating that the proposed lease would adversely impact the wildlife was presented. Additionally, MDIFW reviewed the proposal and did not express any concerns about the lease impacts.

<sup>10</sup> Data obtained from The Maine Office of GIS “GISVIEW.MEDEP.Seagrass2022\_CascoBay”. This is the most current record of mapped eelgrass within the vicinity of the proposal.

<sup>11</sup> Data obtained from USFWS “Bald\_Eagle\_Nests\_-\_Maine\_2023”.

<sup>12</sup> Email correspondence between MDIFW and DMR.



**Therefore,** the aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.

#### **E. Public Use & Enjoyment**

When examining interference with public facilities, the Commissioner considers the degree to which the lease interferes with public use or enjoyment within 1,000 feet of a beach, park, or docking facility owned by the Federal Government, the State Government, or a municipal government (12 M.R.S.A. § 6072-A(13)(F); Chapter 2.37(1)(A)(7)) and and 2.64(11)(A)).

There are no beaches, parks, or docking facilities owned by federal, state, or municipal government within 1,000 feet of the proposed lease site.

**Therefore,** the aquaculture activities proposed for this site will not unreasonably interfere with public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by federal, state, or municipal governments.

#### **F. Source of Organisms**

When examining the source of organisms, the Commissioner shall include but not be limited to, consideration of the source's biosecurity, sanitation, and applicable fish health practices (12 M.R.S.A. § 6072-A(13)(E); Chapter 2.37(1)(A)(6)).

The applicant proposes to obtain hard clam (*M. mercenaria*) stock from Muscongus Bay Aquaculture (Bremen, Maine), Downeast Institute (Beals, Maine) and Mook Sea Farm (Walpole, Maine). Mook Sea Farm is not currently an approved hatchery for hard clam. Therefore, the applicant may only obtain stock from Muscongus Bay, Downeast Institute, or another DMR approved hatchery.

The applicant proposes to obtain soft-shelled clam (*M. arenaria*) stock from Muscongus Bay Aquaculture, Downeast Institute, and Mook Sea Farm. Of these, only Downeast Institute is currently an approved hatchery for soft-shelled clam. Therefore, the applicant may only obtain stock from Downeast Institute or another DMR approved hatchery.

The applicant proposes to obtain Atlantic razor clam (*E. directus*) stock from Downeast Institute. Downeast Institute is not currently an approved hatchery for razor clam and there are currently no approved sources of stock for razor clam. The applicant has not demonstrated an approved source for this species. Therefore, it will not be authorized if the lease is granted. However, if the lease is granted and an approved source becomes available, prior to the expiration of the lease, the holder may request a source review. The review must be requested by the applicant, in writing, and include the name of the

approved source. If DMR approves the request, then the applicant may deploy razor clams. If the lease is granted, a condition will be added accordingly.

**Therefore**, the applicant has demonstrated that there is an available source of stock for hard clam and soft-shelled clam to be cultured for the lease site.

### **3. CONCLUSIONS OF LAW**

Based on the above findings, the Department concludes that:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of riparian owners.
2. The aquaculture activities proposed for this site will not unreasonably interfere with navigation.
3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area.
4. The aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna.
5. The aquaculture activities proposed for this site will not unreasonably interfere with the public use or enjoyment within 1,000 feet of beaches, parks, or docking facilities owned by municipal, state, or federal governments.
6. The applicant has demonstrated that there is an available source of stock for hard clams and soft-shell clam to be cultured for the lease site.

Accordingly, the evidence in the record supports the conclusion that the proposed aquaculture activities meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. §6072-A.

### **5. DECISION**

Based on the foregoing, the Commissioner grants the requested experimental lease of 3.92 acres to David Wilson, for three years, the term of the lease to begin within twelve months of the date of this decision, on a date chosen by the lessee<sup>13</sup>; however, no aquaculture rights shall accrue in the lease area until the lease is fully executed.

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<sup>13</sup> DMR Rule 2.64 (14) provides:

“The term of the lease shall begin within 12 months of the Commissioner’s decision, on a date chosen by the applicant. No aquaculture rights shall accrue in the lease area until the lease term begins and the lease is signed.”

This lease is granted to the lessee for the suspended cultivation of hard clam/quahog (*Mercenaria mercenaria*) and soft-shelled clam (*Mya arenaria*). The lessee shall pay the State of Maine rent in the amount of \$100.00 per acre per year. Because this is an experimental lease with more than 400 square feet of structures and no discharge, a bond or escrow account is required. The lessee shall post a bond or establish an escrow account pursuant to DMR Rule Chapter 2.64 (12)A in the amount of \$5,000.00, conditioned upon performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.

**6. CONDITIONS TO BE IMPOSED ON LEASE**

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities, pursuant to 12 M.R.S.A §6072-A (15) and and 2.64(11)(B). Conditions are designed to encourage the greatest multiple compatible uses of the lease area, while preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the lease.

The following condition is imposed on this lease:

1. If an approved source of Atlantic razor clam (*Ensis directus*) becomes available prior to the expiration of the lease, the holder may request a source review, in writing, which must include the name and address of the approved source. Razor clams may not be deployed unless and until the lease holder receives written authorization from DMR.

**7. REVOCAION OF EXPERIMENTAL LEASE**

The Commissioner may commence revocation procedures upon determining pursuant to 12 M.R.S.A §6072-A (22) that no substantial aquaculture or research has been conducted on the site over the course of the lease, that aquaculture has been conducted in a manner substantially injurious to marine organisms, or that any condition of the lease or any applicable laws or regulations have been violated.

Dated: 4/18/24



**Patrick C. Keliher, Commissioner**  
**Department of Marine Resources**

