



PAUL R. LEPAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF MARINE RESOURCES  
21 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0021

PATRICK C. KELIHER  
COMMISSIONER

October 6, 2014

TO: Ocean Acidification Commission  
FROM: Jon Lewis, DMR, Commission Representative

Re: DMR laws regarding culturing of marine organisms:  
e.g. "seaweeds" and buffering with shell materials

The Maine Ocean Acidification Commission has had numerous discussions about potential methods to remediate Coastal Acidification. Potential methods discussed include the cultivation of 1) kelp or other "seaweeds" and 2) filtering shellfish, in areas of high nutrient loadings. A third potential method includes the placement of crushed bivalve shells (cultch) on mudflats to buffer coastal acidity. While each of these methods might offer valuable benefits to mitigate acidification, existing regulatory programs and complexities may represent hurdles that could slow the development of mitigation implementation. A summary of those potential hurdles is described below.

It must be stated up front that any potential streamlining of regulatory processes for mitigation must take into full account the other uses and users of the affected waterbodies. Streamlining may be difficult or unwise if attempted at the expense of other equally important considerations.

### **Seaweed and bivalve nutrient mitigation**

The Commissioner of the Maine Department of Marine Resources has the authority to issue aquaculture leases in the coastal waters of the State of Maine (12 M.R.S.A. §6072 sub-§1).

It is unlawful for a person who does not have a lease or license issued by the Commissioner to construct or operate in the coastal waters of the State a facility for the culture of finfish in nets, pens or other enclosures or for the suspended culture of any other marine organism (12 M.R.S.A. §6072 sub-§1-A).

The DMR issues two types of leases and one type of license to culture marine species: a standard 10 year lease (12 M.R.S.A. §6072), a three year limited-purpose lease for commercial or scientific research on 4

acres or less (12 M.R.S.A. §6072-A.), and an annual license (LPA) for up to 400 square feet (12 M.R.S.A. §6072-C). Application fees range from \$50 (LPA), to \$2,000. Each type of lease or license must undergo a DMR review and varies in complexity depending upon the type of lease issued. Other State and Federal agencies are consulted.

The major differences between an experimental and a standard lease are as follows:

	<u>Experimental Lease</u>	<u>Standard Lease</u>
Acreage Limit	4 acres	100 acres
Duration	3 years	10 years
Public Hearing	Discretionary; mandatory if 5 requests	Mandatory
Application Fee	\$100	\$1,500 (shellfish) \$2,000 (finfish)
Renewable	Only for scientific research	Yes

In addition, a U.S. Army Corps of Engineers permit, under Section 10 of the Rivers and Harbors Act (33 U.S.C. 401) is required for the placement of any structure (anchors, ropes, lines, containers, etc.) into waters from the high tide line to 200 miles seaward.

Depending upon the lease type, up to eight criteria must be met for the Commissioner to consider granting an aquaculture lease. These criteria include landowner access, navigation, fishing and other uses, habitat and ecology, seed availability, interference with publically conserved lands, noise and light, and visual impact. (12 M.R.S.A §6072 sub-§7A).

The state regulatory process to obtain an aquaculture lease can include, pre-application meetings, public scoping meetings, application review, consultation with State, Federal and local regulators, field site-visits with associated reporting, public notice of an adjudicatory hearing, public mailings, an adjudicatory hearing, a written “Findings of Fact and Conclusions of Law”, a lease decision and execution, lease registration in the Registry of Deeds, and performance bonding. Currently, this process can take up to two years to complete although DMR is making efforts to accelerate this timeframe.

The existing aquaculture leasing and permitting process may act as a disincentive to local municipalities, shellfish committees, agencies or other groups who might choose to implement mitigation by culturing living organisms to uptake nutrients. Some consideration should be given to public interest mitigation culture versus private aquaculture and the review and approval process for each.

### **Crushed shell – Cultch.**

Maine DMR statutes (M.R.S.A §6521) prohibit the “dumping” of any marine animal or its parts in the intertidal zone or in harbor or rivers except that: A person may deposit oyster shell cultch in those waters solely to promote growth of oysters with the written permission of the commissioner and under any conditions the commissioner determines appropriate.

Coastal Acidification remediation might be interpreted as “promoting the growth of oysters” but that is unclear and may be able to be challenged. Some clarification of the intent of placing cultch other than just oyster cultch (e.g. other calcium carbonate containing bivalve shell) may be warranted.

The Clean Water Act (CWA) of 1972 also has some bearing on the “discharge” of cultch materials. Under the CWA § 502 pollutant is defined as dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. Additionally, the term "discharge" when used without qualification includes a discharge of a pollutant, and a discharge of pollutants. The term "pollution" means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

Therefore, a Clean Water Act discharge permit from the Maine Department of Environmental Protection would have to be obtained before discharging materials to mudflats.

The Department of Marine resources would also be concerned about treatment of such shell/cultch materials in that they could contain unwanted invasives or pathogens. Typically some sort of sun drying and bleaching or some other treatment method would be required before shell material is distributed onto mudflats.