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MEMORANDUM

TO: Marine Fisheries Advisory Commission

FROM: David E. Pierce, Director

DATE: April 6, 2016

SUBJECT: Recommendation for 2016 *Vp* Management Measures

Recommendation:
Adopt as a final rule the *Vp* management measures as proposed at public hearing. This final rule will establish a more conservative summertime 1-hour time-to-icing requirement for certain shellfish growing areas in Duxbury, Plymouth and Kingston and Katama Bay and a more liberal 10-days re-submergence requirement for aquaculturists state-wide. The proposals are described in more detail below.

Time to Icing
During the period of July 1 – September 15, all commercial oyster harvesters working in Duxbury, Plymouth, Kingston and Katama Bays (CCB-42, CCB-43, CCB-44, CCB-45, CCB-46, CCB-47 and V-20) will be required to adequately ice their oysters within 1-hour of time-of-harvest or first exposure. At all other times within the *Vp* Control Season (May 21 – October 18) these harvesters will be subject to the state-wide 2-hour time-to-icing standard. It is important to note that despite this new 1-hour seasonal time-to-icing requirement, oyster harvesters in the affected areas will still have 2-hours to conduct oyster culture activities during the summertime without being subject to mandatory re-submergence.

In recent years a number of *Vp* illnesses have been traced back to these growing areas in Western Cape Cod Bay and Martha's Vineyard. As a result, we are expected to implement additional safeguards to reduce the potential risk of illness. Of the various available options, more stringent peak season time-to-icing requirements in specific growing areas were the preferred management strategy.

Public comment on this proposal varied. Katama Bay harvesters and some Western Cape Cod Bay harvesters were supportive of this requirement, recognizing that it should result in a safer food product, enhanced consumer confidence and potentially prevent a peak season closure. However, some Western Cape Cod Bay harvesters found this proposal objectionable. There were three specific concerns:

- Comment: 1-hour time-to-icing may result in the need for harvesters to overload boats with oysters and ice, which may jeopardize fishermen safety.
- Response: DMF is not endorsing overloading harvest vessels and feel there has been deliberate efforts made in regulatory language to provide harvesters who use smaller vessels options to safely harvest. A common existing industry practice allowed under regulation is to prepare product in the days prior to harvest. This allows growers the time to transport oysters from the harvest site to the landing site where ice is waiting shore side. This allows the growers to meet the time-to-icing requirement without the burden of carrying ice to the grant.

- Comment: Some shellfish growing areas, like CCB-42 (Kingston Bay), have not been identified as the single source in a *Vp* illness but are included in increased controls and closures when adjacent growing areas have confirmed single source *Vp* illnesses.
- Response: This approach is warranted by the proximity (~2,500 ft.) and similarities in environmental conditions between the Kingston aquaculture sites and Plymouth aquaculture sites, where there have been reported single source illnesses. These sites are separated by political boundaries or management boundaries not relevant to the management of naturally occurring pathogens like *Vp*.

- Comment: A Katama Bay harvester was concerned that oysters harvested and sold on the Vineyard potentially presented a high risk because oysters are not being chilled for a long enough period between harvest and sale to the consumer. Accordingly, more stringent time-to-icing requirements may not produce the desired effect.
- Response: MA DPH requires wholesale dealers to chill shellstock to 45° F prior to transport to retail establishments and retail food code requires retail establishments to chill shellstock to 41° F prior to service. If oysters are adequately iced, as described in regulation, these temperatures should easily be met prior to receipt by the wholesale dealer and service at any retail establishment. To ensure these standards are being met, considerable efforts on the part of MA DPH and local board of health agents have been made to ensure compliance with dealer and retail food handling regulations. We believe a reduction in the time-to-ice can only aid in shellstock reaching the regulatory temperatures for shipping and service well prior to consumption.

Re-Submergence

When aquaculturists conduct off-site culling or oyster culture activities that exceed two-hours, or oysters are returned to aquaculturists from a primary buyer due to recall or non-compliance, re-submergence is required. This is because *Vp* levels likely become elevated as a result of these activities, so by re-submerging the oysters they will begin to pump again and eventually the presence of *Vp* will return to ambient environmental levels.

Since the implementation of the *V*p regulations, we have required that re-submergence occur for 14-days. This is the nationwide standard. It was developed by FDA through studies of temperature abused oysters. Industry views this 14-day standard as overly burdensome, as oysters tend to foul when submerged for that long of a period, requiring additional culture activity after re-

submergence. Accordingly, there has been consistent pressure from industry to liberalize this standard.

To liberalize this standard, the state must produce state-specific data that demonstrates *Vp* returns to ambient environmental levels in temperature abused oysters in a shorter duration. With oysters provided by the industry, we began collecting this data in 2015. Based on the data collected, we feel we can reduce the re-submergence period from 14-days to 10-days for 2016. We will continue this study in 2016 (and beyond) and are confident that this standard can be further liberalized in future years.

We did not receive any written comment; however, this proposal was broadly supported at public hearing and there were no comments made that found it objectionable.

Attachments
Regulatory Language
Written Comments

16.05 Vibrio Management Plan for Harvest and Handling of Oysters.

(1) Purpose. The purpose of 322 CMR 16.05 is to set forth the protocols and performance standards of the Vibrio Management Plan for shellfish harvesters and dealers to minimize the risk to consumers of pathogens, including *Vibrio parahaemolyticus* (*Vp*) associated with consumption of raw oysters, and applies to commercial fishermen, aquaculturists, and dealers possessing shellstock oysters.

(2) Definitions. For the purpose of 322 CMR 16.05, the following terms hold the following meanings:

Adequately iced means the amount and application methods of ice described in 322 CMR 16.05(3) to completely surround all the oysters in a shellfish icing container to ensure their immediate and ongoing cooling.

Adequately Shaded means the measures required to be taken to protect oysters from direct exposures to sunlight.

Aquaculturist means any person authorized by the Director to propagate or rear shellfish for commercial purposes under the authority of a shellfish propagation permit issued pursuant to 322 CMR 7.01(4).

Broadcast re-submergence means the return of loose, market-sized oysters to the waters of the original license site following off-site culling and/or oyster culture activities requiring re-submergence, as described at 322 CMR 16.05(4).

Commercial fisherman means any person authorized by the Director to harvest shellfish for commercial purposes pursuant to 322 CMR 7.01(2).

Harvester Lot means containers of oysters identified by the harvest tag as having the same time of harvest and consisting of oysters from a single defined growing area gathered by a single commercial fisherman or aquaculturist.

Market Bound Oysters means all oysters removed from a designated shellfish growing area by a commercial fisherman or aquaculturist intended for commercial purposes on that calendar day.

Market sized oysters means those oysters that measure at least 3" shell length or 2 1/2" shell length for those aquaculturists authorized by the Division pursuant 322 CMR 6.20(3) to possess and sell "petit" oysters.

Off-site Culling means an aquaculture practice of temporarily removing shellfish from the licensed site (grant) to an aquaculturists' permitted off-site culling location for the purposes of sorting, grading and cleaning the individual shellfish.

Oyster culture activities means activities conducted by some aquaculturists that require the removal of oysters from the waters of the license site (grant) for the purposes of sorting, culling, grading, pitting, over-wintering and/or the removal of fouling organisms to enhance oyster marketability.

Primary buyer means a seafood dealer authorized by the Director pursuant to M.G.L. c. 130 §80 and 322 CMR 7.07 to purchase shellfish directly from a commercial fisherman. This person is also identified as the Original Dealer in the Commonwealth's Vibrio Management Plan approved by the federal Food and Drug Administration.

Re-submergence means the return of market size oysters back to the water of the original license site (grant) after they have been removed for off-site culling and/or oyster culture activities, or after being returned by a primary buyer, as a result of recall specified at 322 CMR 16.05(4).

Shellfish Icing Container means a conveyance that is smooth, in good condition, is easily cleaned, impervious to water, insulated, self-draining, has a tight fitting lid, and a light-colored exterior.

Time of Harvest for sub-tidal areas means the time when the first oyster in a harvester lot is taken from the water on a calendar day and for intertidal area means the time when the first oyster in a harvester lot is exposed during a single low tide cycle or when the first oyster in a harvester lot is taken from the water, whichever occurs first.

Time of Icing means the time when the last oyster or bag of oysters in a harvester lot is placed in a shellfish icing container and is adequately iced in accordance with the procedure at 322 CMR 16.05(3).

Vp logbook means the Division issued bound logbook required to be used by all commercial fishermen and aquaculturists during the *Vp* season as defined in 322 CMR 16.05(2), to record required icing, shading and re-submergence information described at 322 CMR 16.05(3) and (4) .

Vp season means the time period from May 21st through October 18th when the Vibrio Management Plan is in effect.

(3) Commercial Harvester Restrictions. The following shall apply to all commercial fishermen and aquaculturists harvesting oysters during the *Vp* season.

(a) Icing Requirements

1. General Time to Icing. All commercial fishermen and aquaculturists shall adequately ice oysters, as defined in 322 CMR 16.05(2), within 2 hours of time of harvest or exposure, or prior to leaving the point of landing, whichever occurs first. Oysters must remain adequately iced until received by a wholesale dealer.

2. Seasonal Time to Icing Requirements for Certain Growing Areas. From July 1 – September 15, all commercial fishermen and aquaculturists who are harvesting oysters in shellfish growing areas CCB-42, CCB-43, CCB-44, CCB-45, CCB-46, CCB-47 and V-20, shall adequately ice oysters, as defined in 322 CMR 16.05(2), within 1 hour of time of harvest or exposure, or prior to leaving the point of landing, whichever occurs first. Oysters must remain adequately iced until received by a wholesale dealer.

3. Methods for Icing. To meet these time to icing requirements, commercial fishermen and aquaculturists must place oysters and ice into a shellfish icing container using one of the following methods:

i. Mesh bags containing oysters must be completely surrounded by ice, with at least two (2) inches of ice between the bags and the bottom and sides of the shellfish icing container, and at least three (3) inches of ice on top of the mesh bags;
ii. Loose oysters placed into a shellfish icing container must be completely surrounded by ice, with at least two (2) inches of ice at the bottom and sides of the shellfish icing container, and at least three (3) inches of ice on top of the loose oysters;
iii. Oysters held in an ice and water mixture (e.g., ice slurry or cold water dip) must be fully submerged and the ice and water mixture must be at or below 45°F to inhibit growth and proliferation of bacteria.
iv. All ice and or water used to cool oysters must originate from a fresh potable water source or ocean water from an area classified as "Approved" or "Conditionally Approved" by the Division of Marine Fisheries and in the "open status."

~~**a) Icing Requirement. All commercial fishermen and aquaculturists shall adequately ice oysters, as defined in 322 CMR 16.05(2) within two (2) hours of time of harvest or exposure or prior to leaving the point of landing, whichever occurs first. Oysters must remain adequately iced until received by the wholesale dealer. To accomplish this, commercial fishermen and aquaculturists must place oysters and ice into a shellfish icing container using one of the following methods:**~~

~~**1. Mesh bags containing oysters must be completely surrounded by ice, with at least two (2) inches of ice between the bags and the bottom and sides of the shellfish icing container, and at least three (3) inches of ice on top of the mesh bags;**~~

~~**2. Loose oysters placed into a shellfish icing container must be completely surrounded by ice, with at least two (2) inches of ice at the bottom and sides of the shellfish icing container, and at least three (3) inches of ice on top of the loose oysters; or**~~

~~**3. Oysters held in an ice and water mixture (e.g., ice slurry or cold water dip) must be fully submerged and the ice and water mixture must be at or below 45°F to inhibit growth and proliferation of bacteria.**~~
~~**4. All ice and or water used to cool oysters must originate from a fresh potable water source or ocean water from an area classified as "Approved" or "Conditionally Approved" by the Division of Marine Fisheries and in the "open status."**~~

(b) Shading requirement. All commercial fishermen and aquaculturists shall adequately shade oysters, as defined in 322 CMR 16.05(2) immediately following harvest and until oysters are adequately iced. Materials in direct contact with oysters or bags of oysters must be smooth, easily cleanable and impervious to water.

(c) Shellfish Icing Tag Requirement. In addition to the tagging requirements at 322 CMR 16.03, commercial fishermen and aquaculturists shall record the time of icing on all harvester tags affixed to containers of oysters or record the time of icing on a single harvester tag attached to a shellfish icing container. The use of a single harvester tag for the purpose of meeting this shellfish icing tag requirements does not exempt commercial fishermen and aquaculturists from attaching harvester tags, as specified at 322 CMR 16.03, to all individual containers of market bound shellfish. A single harvester tag for the purpose of meeting the shellfish icing tag requirements may be used in instances when:

1. All oysters in the shellfish icing container are from a single harvester lot;
2. The shellfish icing tag is attached to the shellfish icing container at the time of icing and remains attached to the shellfish icing container until received by the primary buyer; and
3. The shellfish icing tag also includes the time of harvest, harvest date, harvest area, harvester identification and quantity (in pieces) of oysters harvested.

(d) Logbook Requirement. When landing oysters, all commercial fishermen and aquaculturists must have in their possession the Division of Marine Fisheries issued *Vp* logbook. The commercial fishermen, aquaculturist or his or her licensed employee shall record in indelible ink the date, shellfish growing area, time of harvest, time of icing, quantity harvested (in pieces or bushels) and the dealer who received the product. The *Vp* logbook shall be filled out by the permit holder, or his or her licensed employee, at the time of landing before the day's harvest is placed in transit or leaves the landing site except that the primary buyer information may be completed upon receipt of the market bound oysters by the primary buyer.

(e) Restrictions on Transport of Market Bound Oysters to the Primary Buyer All market bound oysters shall be transported by the commercial fishermen, or aquaculturist or his or her licensed employee, directly to the primary buyer's physical facility or received by the primary buyer at the landing site. Commercial fishermen and aquaculturists are prohibited from handling and/or holding market bound oysters at any unlicensed facility prior to receipt by the primary buyer.

(4) Restrictions that Apply to Aquaculturists Only

(a) Re-submergence Requirements for Off-Site Culling Practices. Market-sized oysters may be removed from the original license site for the purpose of off-site culling, provided:

1. All removed oysters are returned to and segregated on the license site for at least ~~**14-days**~~ **10-days** prior to being harvested for commercial purposes;

2. Off-site culling activities are subject to Aquaculture Propagation Permit permit conditions, issued by the Division pursuant to the authority at G.L. c. 130 § 80 and 322 CMR 7.01(7); and

3. Prior to the removal of any shellstock from a license site, harvesters are required to notify the local municipal shellfish authority.

(b) Re-submergence Requirements for Oyster Culture Activities Conducted on Barges, Boats and Other Floating Structures. Market-sized oysters may be brought onboard

barges, boats and other floating structures for the purpose of oyster culture activities, provided:

1. All oyster culture activity that is not conducted on the license site is conducted within the same designated shellfish growing area as the license site;

2. When oyster culture activities exceed two (2) hours from the time of harvest or time of first exposure, all oysters subject to such activities must be returned to the license site, segregated and re-submerged for at least ~~14-days~~ **10-days** prior to being harvested for commercial sale; and

3. When oyster culture activities do not exceed two (2) hours from the time of harvest or first exposure, all oysters subject to such activities may either be properly tagged and harvested during that calendar day, in accordance with the procedures set forth at 322 CMR 16.00, or returned to the original license site and harvested not before the next calendar day.

4. Between July 1 and September 15, in shellfish growing areas CCB-42, CCB-43, CCB-44, CCB-45, CCB-46, CCB-47 and V-20, when oyster culture activities exceed the one (1) hour time to icing requirement at 322 CMR 16.05(3)(a)(2), but do not exceed two (2) hours from the time of harvest or first exposure, all oysters subject to such activities must be returned to the original license site and shall not be harvested sooner than the following calendar day.

(c) Tagging and Logbook Requirements for Re-submerged Oysters.

1. Logbook Requirements. Aquaculturists shall maintain a record in their *Vp* logbook of all market-sized oysters returned to the license site after off-site culling or oyster culture activities requiring re-submergence. The *Vp* logbook shall be filled out by the permit holder, or his or her licensed employee, at the time of re-submergence when the last market-sized oyster is returned to the license site, except that the date-out information shall not be completed prior to the end of the ~~14-day~~ **10-day** re-submergence period.

2. Container Tagging Requirement. All containers of re-submerged oysters shall be marked with a waterproof green tag and legibly labeled in indelible ink with the statement “re-submerged” and with the date that the oysters were returned to the license site for re-submergence. After such oysters have remained on the license site for at least ~~14-days~~ **10-days**, the green “re-submerged” tag may be removed from the containers and the oysters may then be harvested in accordance with those procedures set forth at 322 CMR 16.00.

3. Alternatives to Container Tagging Requirements. Aquaculturists who engage in broadcast re-submergence or wish to mark multiple containers of re-submerged oysters using a single re-submergence tag may do so following the submission of a re-submergence plan to the Division for approval. The re-submergence plan must be submitted at least 30-days prior to the start of the activity and it must include, at a minimum, the following:

i. A description of the re-submergence method (e.g., broadcast, holding cars, cages, etc.);

ii. A description of the segregation method to be utilized, including a site map marking the segregated re-submergence area; and

iii. A description of the re-submergence tagging method to be utilized.

(d) Additional Re-Submergence Restrictions.

1. Re-submergence of oysters may only be conducted by the permitted aquaculturists on the license site where the oysters originated, unless otherwise approved in advance in writing by the Division.

2. Except as provided for at 322 CMR 16.05(4)(b), market-sized oysters returned to a license site will be considered off-site culled and subject to the tagging, *Vp* log book and re-submergence requirements set forth at 322 CMR 16.05(4).

(5) Disposition and Handling of Non-Compliant Oysters and Recalled Oysters

(a) Destruction of Non-Compliant Oysters.

1. In the event that the Division, the local Shellfish Constable or the Office of Law Enforcement determines that a commercial fisherman or aquaculturist is in possession of oysters that are out of compliance with the tagging, icing or other requirements set forth at 322 CMR 16.00, such oysters shall be destroyed.

2. In the event that oysters distributed into commerce are recalled in the case of illness, such oysters shall be destroyed.

(b) Re-Submergence of Non-Compliant Oysters.

1. In the event of a recall resulting from the closure of a harvest area due to illness, only those oysters received from harvesters and stored at a primary buyer's facility may be re-submerged.

2. In the event that the Division or Public Health determines that a primary buyer is in possession of oysters that do not comply with the tagging, icing or other requirements set forth at 322 CMR 16.00, such oysters may be returned to the aquaculturists, and re-submerged and segregated on the license site where they originated for ~~**14-days**~~ **10-days** under the supervision of the local Shellfish Constable.

3. Aquaculturists may harvest oysters that have been re-submerged in accordance with 322 CMR 16.05(5)(b), provided the following actions are taken:
    i. Recalled oysters have been segregated and re-submerged on the license site for a minimum period of ~~**14-days**~~ **10-days**;
    ii. Recalled oysters are tagged with a waterproof green tag labeled in indelible ink with the statement "non-compliant" or "recalled" and the date of re-submergence;

iii. The return, segregation and re-submergence of oysters are documented in the *Vp* logbook, including recording the quantity of oysters, and date and purpose of the return and re-submergence, in accordance with 322 CMR 16.05(4); and

iv. After such oysters remain on site for at least ~~**14 days**~~ **10-days**, the green "non-compliant" or "recalled" tag may be removed and the oysters may then be harvested, subject to being tagged as specified in 322 CMR 16.00.

(6) Authority to Suspend Permits for Violations of 322 CMR 16.00

(a) Subject to the procedures in 322 CMR 16.05(6)(b), the Director may suspend without a prior hearing the permit of a commercial fisherman, aquaculturist, or a wholesale dealer whenever an officer authorized to investigate and enforce shellfish laws and regulations of the Commonwealth determines that there is reasonable cause for citing such permit holder for a violation of 322 CMR 16.00.

(b) Such permit suspension shall not be effective until the permit holder is in receipt of following information.

1. The written report from the officer that sets forth the factual and regulatory basis for the officer's determination that there is reasonable cause for citing such permit holder for a violation of 322 CMR 16.00.

2. A written notice of the Division's authority under M.G.L. c. 130, § 80 and 322 CMR 16.05(6) to suspend the permit and a statement of the basis for such suspension, with reference to the enforcement officer's written report.

3. An order to show cause from Director or his or her authorized designee that establishes a timely date and location for an adjudicatory proceeding to be conducted pursuant to M.G.L. c. 30A and 801 CMR 1.01 to adjudicate whether the permit should be revoked. The Division's order shall also inform the permit holder of his or her right to request an expedited hearing.

From: Fish, Marine (FWE)
To: Silva, Jared (FWE)
Subject: Fw: Vibrio comment
Date: Friday, April 01, 2016 1:38:15 PM

From: Scott Castro <smcastro04@yahoo.com>
Sent: Friday, April 1, 2016 10:33 AM
To: Fish, Marine (FWE)
Subject: Vibrio comment

Director David Pierce,

My name is Scott Castro. I'm writing to offer my opinion of the current vibrio problem. I am going into my 19th year growing oysters in Katama bay.

I believe the main issue is that oysters that get sold locally on Martha's Vineyard are not being chilled long enough before being served. The growers that are selling locally are doing everything by the book. They are bringing coolers, and ice, in their boats and getting the oysters on ice well within the two hour timeline. I think the problem occurs because the oysters are not on ice long enough. It is possible to harvest oysters, and be anywhere on Martha's Vineyard in 30 minutes. Many of the restaurants only take a two day supply. When they run out they panic and "need them asap". There is also a perception that the quicker they get them the "fresher" they are. I think this results in oysters being served that are not properly chilled. It is possible to harvest an oyster, and have it being served in 1-2 hours.

Roughly ten percent of the oysters harvested from Katama Bay are sold on the island. That ten percent account for almost all the cases of vibrio. Ninety percent go to wholesalers as far away as Boston, New Bedford, and Buzzards Bay. These oysters are on ice for a minimum of 5-6 hours. Most of the growers that sell to wholesalers off-island have never had a problem. In 19 years I myself had one case possibly tied to me last year. It was unconfirmed because after they were sold they went on a 500 mile ride, and there were two other types of oysters in the restaurant that were being served as well. I would like to add that I don't believe going from 2 hours to ice, to 1 hour to ice is going to do much to keep people from getting ill. The problem is not being on ice long enough.

Lastly if the same growers, and the same restaurants, keep having issues with vibrio maybe the focus should be on the methods used by these businesses and not the industry as a whole.

Thanks for your consideration, Scott Castro

From:	Schillaci, Christopher (FWE)
To:	Silva, Jared (FWE)
Subject:	FW: Vibrio Feedback
Date:	Friday, April 01, 2016 3:56:22 PM

From: Ben Lloyd [mailto:benl@pangeashellfish.com]
Sent: Friday, April 01, 2016 3:55 PM
To: Vibrio Feedback (DPH); Schillaci, Christopher (FWE)
Subject: Vibrio Feedback

Proposal #1. Time to Ice

I have mixed opinions on this proposal. In theory reducing the icing time makes sense, but if it doesn't help the problem than what have we gained? Tighter restrictions implemented from 2013 to 2015 didn't help reduce illnesses, so why should we think this plan will work either? My fear is that it won't reduce illnesses in any way but it will still be kept in place.

I am hoping that DMF lives up their words from the recent meeting in Plymouth and allows Duxbury growers to use our soakers in a town approved licensed aquaculture area. I think this could be the key to reducing Vibrio illness if used properly. This would allow us to get the oysters up out of the mud and purge them. We could also ice them in less than 10 minutes from the soaker to ice.

Proposal #2: I support the two hour rule for harvest the next calendar day.

Proposal #3. Resubmergence.

We are in favor of the reduction of resubmergence time. I think this is a good start and I'm hoping the State can reduce this further next year.

Thanks,

Ben Lloyd
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