

Controlling *Vibrio Parahaemolyticus* in Massachusetts

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**BUREAU OF ENVIRONMENTAL HEALTH
MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH**

**DEPARTMENT OF FISH & GAME
DIVISION OF MARINE FISHERIES**

Vibrio Emerging in Massachusetts

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- Massachusetts has had an increasing number of individuals diagnosed with *Vibrio parahaemolyticus* in recent years
 - MA cases investigated by DPH and DMF each year
 - ✦ 2011 – 13 cases
 - ✦ 2012 – 27 cases
 - ✦ 2013 – 58 cases
- Of the 58 cases reported to DPH in 2013, 33 cases were traced back to one or more MA-only growing areas, resulting in closures
 - 19 Vibrio cases with some relationship to Duxbury Bay resulted in area closure on 8/29
 - 12 Vibrio cases with some relationship to Katama Bay resulted in closure on 9/9

Roles of Shellfish Control Authority

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DPH

- Responsible for foodborne illness investigations
 - Licenses wholesale dealers
 - Conducts shellfish dealer sanitary inspections for *Vp* Control Plan compliance
 - Conducts trace back of shellfish in confirmed cases
 - Collects, reviews and interprets epidemiological data for confirmed *Vp* illnesses

DMF

- Licenses harvesters and wholesale dealers
- Classification and monitoring of growing areas
- Conducts inspections of landing sites for *Vp* Control Plan compliance

How Does Vibrio Illness Get Reported to DPH?

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- **Vibrio illness is a reportable disease in Massachusetts.**
- **Hospitals, doctors, and laboratories report results to MDPH and to the local health department in the town where the patient lives**
- **Patients are interviewed and their information is sent to CDC who coordinates information with affected states**

Illness Investigation Procedures

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- 1) Illnesses are reported to DPH Food Protection Program (FPP) and/or DPH Bureau of Infectious Disease.
- 2) Infectious Disease epidemiologists contact local health nurses to conduct personal interviews with those that become ill.
- 3) Following these interviews, FPP, assisted by local boards of health (LBOH), reviews shellfish tags and other shipping records to determine which oysters may be implicated in each illness.
- 4) FPP and LBOH evaluate retail shellfish handling practices, including time/temperature control of implicated oysters.

Illness Investigation Procedures (con't)

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- 5) FPP then evaluates shellfish handling practices and compliance with MA Vibrio Control Plan by all dealers providing oysters to retail establishments.
- 6) When specific harvesters are identified, FPP and Department of Fish and Game (DMF) evaluate harvester shellfish handling practices and compliance with MA Vibrio Control Plan.
- 7) May result in DPH recall of implicated shellfish among wholesale dealers and closure of beds by DMF.

2013 MA Vp Control Plan

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- Implementation from May 24 – October 20
- Required for entire state
- Harvesters required to:
 - ice oysters immediately upon landing
 - Adequately shade during transport
 - Record time of harvest and/or exposure by tide on harvester tag
- Dealers required to cool oysters $\leq 50^{\circ}$ F within 10 hrs of harvest/tidal exposure
- May not ship until internal temp of $\leq 50^{\circ}$ F is verified by dealer

DPH *Vp* Investigations Summer/Fall 2013

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- **19 Vibrio cases with some relationship to Duxbury Bay**
 - In most cases the illnesses were linked to possible abuse at the retail level
 - tied to multiple growing areas
- **12 Vibrio cases with some relationship to Katama Bay**
 - In several cases the illnesses were linked to possible abuse at the retail level
- **Consistent with ISSC Model Ordinance, two cases were linked to a single growing area and as a result:**
 - Duxbury and Kingston Bays and Plymouth Harbor were closed to oyster harvest on 8/30
 - Katama Bay was closed to oyster harvest on 9/9

Additional MA Confirmed Cases 2013

- Illnesses associated with harvest areas in Buzzard's Bay (BB), Cape Cod Bay (CCB) and South Cape (SC).
- Single illnesses – **not considered outbreaks**; therefore did not result in area closures.
- Of the 58 cases reported to FPP, only 33 cases were traced back to one or more MA-only growing areas.
- 13 cases were traced back to single MA growing areas.
- 30 of the 58 reported cases also identified out-of-state growing areas as possible sources.
- All of the MA growing areas with illnesses had consumption dates that fell between June 28th and August 27th with corresponding harvest dates between June 26th and August 25th.

Outcomes of January Listening Sessions

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- Shared concerns of Industry, DPH and DMF:
 - Vibrio Management
 - ✦ More specific definition of adequate icing
 - ✦ Re-submergence for purposes of anti-fouling and/or culling
 - ✦ Culture practices on floating structures (“oysterplexes”) during *Vp* season
 - Investigating Retail Abuse
 - ✦ Procedures for investigating confirmed *Vp* illnesses
 - ✦ Mishandling and time/temp abuse of oysters at retail
 - ✦ Education for Local Boards of Health and retail establishments
 - Enforcement and Closure/Re-opening criteria
 - ✦ Enforcement of *Vp* Control Plan
 - ✦ Procedures for re-opening closed areas
 - ✦ Testing for *Vp*

DMF Vp Compliance Monitoring 2013

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- Landing site inspection totals:
 - Sites in 15 towns visited
 - 115 individual monitoring events
 - 52 events with market-sized oysters landed
 - 18 compliant landings
 - 34.6 percent compliance rate

(See handout for DMF Vp Compliance Monitoring Form)

Oyster Culture Practices of Concern

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- Harvest and culling oysters then re-submergence for future harvest
 - Intertidal operations
 - Subtidal operations
- Air drying racks and or bags of oysters for anti-fouling purposes
- Culture practices on floating structures (“oysterplexes”)



Enhancing the *Vp* Control Plan for 2014

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- **Industry:**
 - January 2014 - stakeholder listening sessions
 - February 2014 - ISSC update and discussion of proposed changes to Massachusetts *Vp* Control Plan
 - Spring 2014 - education and training sessions for 2014 *Vp* Control Plan
- **Local boards of health:**
 - MA Health Officer's Association
 - April 2014 - Training seminars
 - June 2014 - Quarterly meeting
 - Request that local boards of health provide training to retail food establishments

Strategies for 2014 Control Plan

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- Icing required **within two (2) hours** of time of harvest or exposure
- May be bagged a **minimum of 48 hours** prior to harvest
- Logbook must include name of **receiving dealer**
- Re-submergence permitted for anti-fouling and/or culling provided that oysters are:
 - Segregated and properly tagged
 - Returned to original harvest waters for **minimum 14 days**

Strategies for 2014 Control Plan (con't)

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- Cooling to $\leq 50^{\circ}\text{F}$ within 10 hours of harvest or exposure by tide must occur **at dealer's facility**
- Oysters **may not** be shipped the same day of harvest
- Dealer's must record **time of icing** in receiving records
- More specific definition of "**adequate ice**"
 - Must place mesh bags in **shellfish container**
 - Completely surrounded with minimum two (2) inches between bags and along sides, at least three (3) inches on top

Strategies for 2014 Control Plan (con't)

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- **Shellfish Container:**
 - Smooth, easily cleanable, impervious to water
 - Insulated with a lid
 - Self-draining
 - Light-colored
- **Time of Icing:**
 - Time when the **last** bag of oysters is placed in a shellfish container that is adequately iced.

