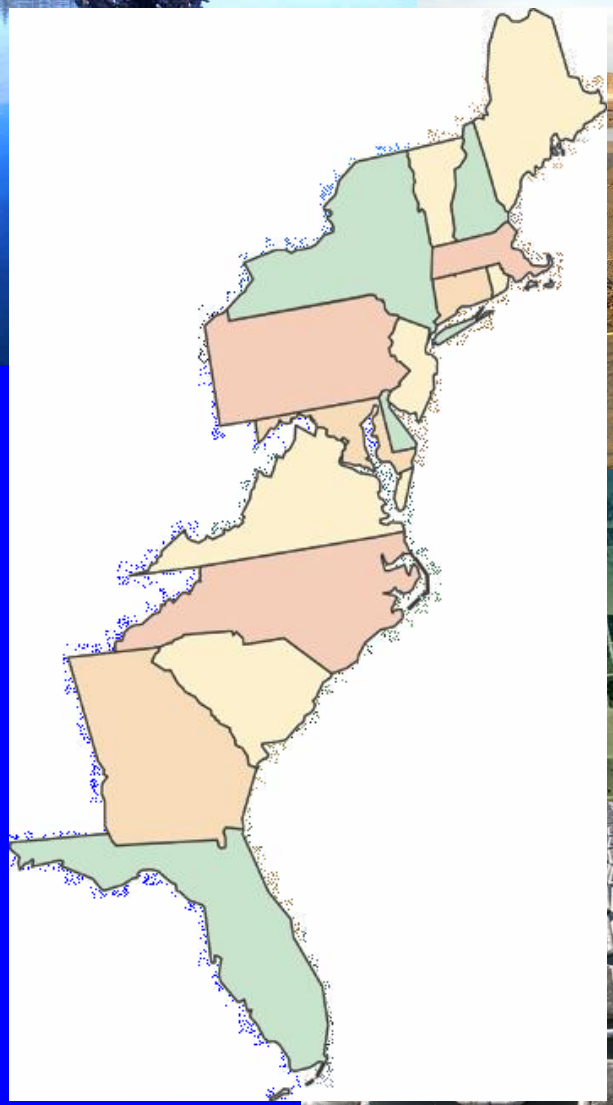
# ISSC Aquaculture Regulations

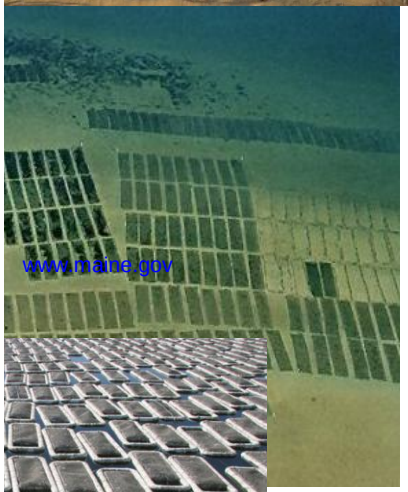
Seed from prohibited waters
Aquaculture facilities inspections

Bob Rheault
Executive Director
East Coast Shellfish Growers Association
bob@ECSGA.org

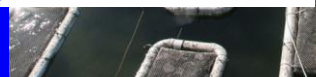
EAST COAST
SHELLFISH GROWERS
ASSOCIATION

# 14 East Coast States

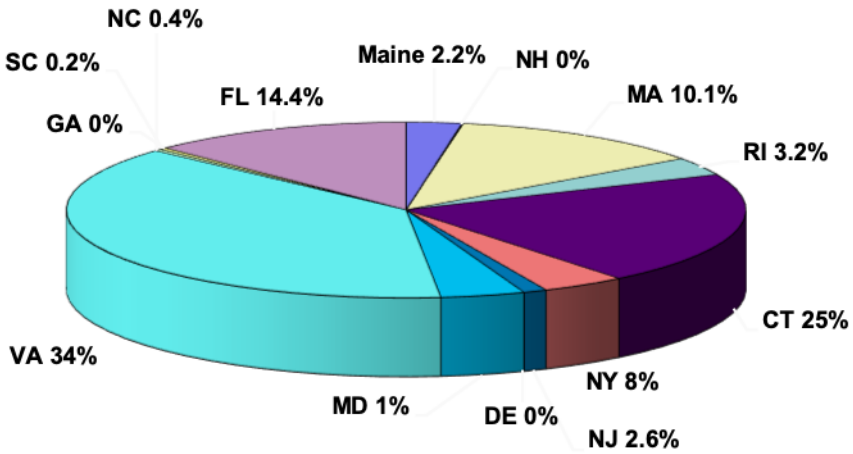








**Shellfish Aquaculture by State**
**percent of total East Coast**
**$170 million farm gate**



# What did the ISSC do in 2016?

- States must report landings
- Dealers must train employees
- States shall establish resubmergence protocols
- New aquaculture chapter
- Dozens of bad proposals defeated
- Several good proposals shelved

# Aquaculture Chapter Rewrite

- Seed from prohibited or uncertified areas must be grown out in open waters for at least 4 months
- States need to define a “maximum seed size” a size at which it become illegal to hold shellfish in prohibited waters
- Growers and regulators need to address situations where gear may attract birds or mammals and impact water quality

# Historical Reference

- 1986 – established small hatchery
- Looking for sites to do nursery culture
- Did some experiments in four RI marinas
- Evaluated heavy metal contamination
  - Elevated Fe, Cu and Zn
  - Cd, Cr, Pb, and Hg not above EPA Alert levels
- PAH levels not elevated

# Historical Reference

- John Musselman submitted a proposal ~1995
- Established that shellfish seed from prohibited waters could be sold after 6 months in open waters
- RI state set the limit at 12 months to be safe

# Historical Reference

- A review of RI regs revealed we were not inspecting aquaculture facilities 2X per year as required
- Not clear what the inspections were for
- FLUPSYs only in the water for 4-5 months
- 2014? I submitted a proposal to decrease the inspection frequency to 1X per year
- Sent back to committee to rewrite the aquaculture chapter

# Historical Reference

- Mammoth committee got a late start, wrestled for days, epic conference calls, subgroup attempted a fresh approach
- Contentious Task Force discussion - tabled
- Late night rewrite produced an imperfect document that passed only because it was marginally better than the old version.

# Aquaculture in the MO

- Flawed definition
- Seed from prohibited areas needs 4 months in open water
  - States need to establish a maximum seed size
- Facilities inspections 1X / year
- Reference to bird issues needs guidance
- Ripe for refinements

# Aquaculture Definition

- Aquaculture means cultivating shellfish in controlled conditions for human consumption. Cultivation includes propagation and growing of shellfish. These activities may occur in natural or man-made water bodies. These activities include seed collection, production and cultivation in natural water bodies when shellfish are held off the bottom such as the use of racks, bags, or cages and when shellfish are held in man-made water bodies such as the use of tanks, ponds or raceways. These activities do not include depuration or wet storage.

(what about on-bottom or in sediment?)

# Aquaculture definitions

- Facility means a structure. For other connotations, use person or activity.
- Float Aquaculture means open water aquaculture where shellfish product is suspended at the water surface using floats.
- Open Water Aquaculture means the cultivation of bivalve shellfish in natural shellfish growing areas.
- Seed means shellstock which is less than market size.

# Ch. VI Shellfish Aquaculture

@.01 Requirements of the Authority

A. Aquaculture activities which may pose a significant heath concern and are regulated….

(1) Seed production in waters classified as Prohibited or Unclassified; and

(2) Aquaculture structures that may attract birds or mammals; and

(3) Land based aquaculture.

# Ch. VI Shellfish Aquaculture

@.01 Requirements of the Authority

B. The Authority shall:

(1) Approve the written operational plan for operations as outlined in @.01A above;

(2) Inspect operations outlined in @.01A above at least annually; and

(3) At a minimum inspect operator records to verify that appropriate permits are up to date and that operational plans required in @.01A are being implemented; and

(4)

# Ch. VI Shellfish Aquaculture

@.01 Requirements of the Authority… cont'd.

B. The Authority shall:

(4) Consistent with Chapter IV @ .01 D(1)(e) when aquaculture as defined in the Model Ordinance attracts birds or mammals, their presence should be considered for possible adverse effects on growing area water quality.

Ch.4 @.01D Shoreline Survey Requirements

(1)(e) Consider the presence of domestic, wild animal or resident and migrating bird populations for possible adverse effects on growing areas.

# Seed in Prohibited Waters

@.02 Seed Shellstock

A. The authority shall establish the maximum seed size…..  …..that requires a minimum of 120 days of growing to reach market size.

B. The Authority shall establish appropriate corrective procedures for when seed exceeds max seed size in prohibited waters

What if your state has no minimum market size?

# Seed in Prohibited Waters

Ch 5 Requirements for the Harvester/ Dealer

.01 Exceptions

Hatcheries and nurseries rearing larvae and/or seed in Approved or Conditionally Approved growing areas are exempt

Restricted or Conditionally Restricted waters are exempt unless you exceed max seed size in – then subject to Relay Ch V.

What if you are in unclassified waters, drawing from a SW well?

# Seed in Prohibited Waters

Ch 5 Requirements for the Harvester/ Dealer

.03 Seed Production in Water Classified as Prohibited or Unclassified

B. Operational Plan. … Prior approval by Authority

(1) Description of the design and activities…

(2) Site and boundaries…

(3) Types and locations of structures….

(4) Species…

(5) Procedures to assure no poisonous or deleterious substances are introduced from the seed production activities

(6) Corrective actions for exceeding max seed size

# Seed in Prohibited Waters

So why 120 days?

My proposal was for two months and I presented data describing depuration of bacteria in 2 days and viruses within 4 weeks.

Repeated sampling has shown seed are not exceeding the Alert Levels in these waters so you can’t expect to do a contaminant reduction study.

If there is a sewage spill the prescribed response is to close the growing area for 21 days.

# Seed in Prohibited Waters

So why not 1-2 months?

Concerns about other deleterious substances. Not detected – we are not talking about industrial sites. These are small-boat marinas.

Concerns about viral depuration. Fine – double the projected time above 50 degrees.

Would simplify record keeping and alleviate concerns about seed growing to market size before purging.

# Land-Based Aquaculture

Operational plan

- Program of sanitation, maintenance and supervision to prevent contamination…..
- Collection of data concerning the quality of food (algae)…
- Program to maintain water quality…..

….meets the requirements for WQ and testing in Ch VII C .04 (3)(a-d) – eg. Wet Storage Regs.

…weekly sampling for coliform group…etc.

# Inspections

Used to be twice a year on all “facilities” and there was no guideline

Now once a year and we have specific things to inspect.

Still vague on who needs an Operational Plan?

1. Seed production in waters classified as Prohibited or Unclassified; and
2. Aquaculture structures that may attract birds or mammals; and
3. Land based aquaculture.

# Inspections

- What structures “may attract birds or mammals”? (this is the criteria for Operational Plans and therefor annual inspections)

Floating gear, buoys, rack and bag, poles, boats, docks, bottom cages at low tide?

- How many birds is a problem – Is it bird count, density, bird type, are we concerned about 1 bird dropping or 10? Or are we going with a measurement of WQ – the coliform group?
- Are aquaculture producers held to a similar standard when we do shoreline surveys “considering the presence of resident or migrating bird populations ?

# Inspections

- If we define these structures too broadly then some Authorities will need to inspect virtually every farm.
- We need to establish guidance on “may attract”
- When can it be records inspection?

# Operational Plans

For seed producers in prohibited waters

- Seed out before max seed size

# Operational Plans

For buyers of seed from prohibited waters

- For states with minimum harvest size – establish a max. seed size that works
- Others need to provide records demonstrating segregation and a mechanism to ensure seed are purged prior to sale.
- If production methods don’t allow that then they should use a seed source from open waters.

# Operational Plans

For land-based aquaculture

- List of procedures and testing protocols etc.

# Operational Plans

For structures that may attract birds or mammals

- Proposed deterrents, kites, cannons, etc.
- Proposed reconditioning – hold for 48 hours at depth, or similar depuration steps to demonstrate contaminant reduction (perhaps like resubmergence protocols)
- Seasonal harvest restrictions?

# If you have questions:

Contact: bob@ECSGA.org

(401)783-3360

ECSGA.org

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