

EAST COAST SHELLFISH GROWERS ASSOCIATION



The East Coast Shellfish Growers Association represents over 1,000 shellfish farmers from Maine to Florida. These proud stewards of the marine environment produce sustainable, farmed shellfish while providing thousands of jobs in rural coastal towns.

The ECSGA informs policy makers and regulators to protect a way of life.

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The Mouth of the Bay In This Issue



Executive Director
Bob Rheault

Things are warming up on the farms and shellfish are starting to pop, meaning many of you will probably be too busy to read our newsletter. Too bad because we work hard to ensure that you get all the news you can use, delivered four times a year.

Markets are strong and many growers are running low on inventory, which seems to be the new normal for spring. This is a good time to be a shellfish farmer, since we don't need to spend much on marketing. While oyster production has doubled in the past six

years, it seems that demand for sustainable, delicious, nutritious shellfish is growing just as fast. It is up to us to ensure that we keep up the quality, and especially that we keep *Vibrios* in check to ensure that the trend continues.

As waters warm, state *Vibrio* control plans are also kicking in. I review the latest CDC illness data (p. 10) and discuss the keys to effective ice-slurry dips. These helpful "dip tips" have been developed by New England growers and regulators who continue to struggle with the new virulent strain of *V. parahaemolyticus* that sickens a few dozen people every summer.

The USDA is rolling out a new crop insurance program next spring: the Whole Farm Revenue Program. Growers with several years of good records could find this to be a great program. I revive my Regulatory Outrage column (p. 16), to rail against irrational regulations and policies.

On page 8 Steve Plant exposes the wasteful folly of a new FDA proposal that promises to force shuckers and retailers to change their packaging and to institute new controls to combat the theoretical threat of *Clostridium botulinum*, a bacteria that has not caused one illness stemming from shucked shellfish since the invention of refrigeration.

As scientific tools to measure toxins get ever more sensitive, we are discovering that mercury, plastics and nuclear radiation are virtually everywhere. I look at those perils and evaluate the science behind them (p. 11) to see if there's really anything to worry about.

And finally, we are kicking off our annual membership drive and preparing for the biggest Milford Festival ever, so please step up and get involved. Together we can ensure that this great industry continues to thrive.

Whole-Farm Revenue Protection Policy: A Viable Crop Insurance Option for Shellfish Growers?

by Erin Roche, Crop Insurance Education Program Manager,
University of Maine Cooperative Extension

A new crop insurance option emerged from the 2014 Farm Bill: the Whole Farm Revenue Protection (WFRP) policy. WFRP differs from traditional crop-insurance policies and the Farm Service Agency's Non-insured Crop Disaster Assistance Program (NAP) in a few key ways.

First, WFRP is a crop-neutral policy; most crops, animal, nursery and resale products that are grown, sold and reported as revenue on your Schedule F tax documents are eligible for coverage. This includes aquaculture crops and farmed fish, but excludes timber and animals used for sport, show or pets.

Second, while most crop-insurance policies and NAP are designed to protect individual commodities (such as corn), growers can insure multiple commodities (i.e. corn and oysters) under one WFRP policy. WFRP also dif-

fers from other risk-management programs in that it protects the grower's yearly gross revenue from loss. In contrast, most crop insurance policies protect against loss of crop yield or revenue, and NAP is an inventory loss-based program.

Third, WFRP was designed for "diversified farms." Growers insuring more than one commodity are eligible for additional premium subsidies and higher levels of coverage. Now for a bit more detail about WFRP and how it compares to NAP, the other commonly used risk-management program for shellfish.

WFRP Basics

What does WFRP protect?

WFRP protects the grower from a loss of gross revenue during the insurance year. The amount of farm revenue protected with WFRP is based on your "approved" gross



— Photo by NOAA

Remember Superstorm Sandy? Atlantic hurricane season opened on June 1.

Maybe crop insurance for your shellfish farm is worth looking into.

revenue. This is the lower of your expected gross revenue for the insurance year *or* your whole-farm, historic average gross revenue, usually based on the previous five tax years. There are limits on how much gross revenue can be insured with WFRP. Growers cannot insure more than \$8.5 million total gross revenue, and no more than \$1 million gross revenue from animals (this would include aquaculture and farmed fish crops). The WFRP insurance year follows your tax year. For example, the insurance year for a calendar year filer would be from January 1, 2017 to December 31, 2017.

— Continued on page 3

2016 Milford Oyster Festival Set for Aug. 19-20

It's that time of year again! Planning is already underway for the 42nd annual Milford Oyster Festival on Friday and Saturday, Aug. 19-20, when we hope to serve more than 40,000 oysters and clams to an eager crowd.

The festival is our biggest fundraising effort of the year, with the proceeds fueling almost 40 percent of our annual operating expenses, but we can't pull this off without the help of about 100 volunteers. And while the work is hard, the reason we have a dedicated cadre of growers who come back year after year is because it's also a lot of fun.

The Milford fest is a great opportunity to connect with other growers, gear suppliers and scientists from the Milford Lab. We have a great team of paid professional shuckers who come from up and down the coast to compete for thousands in prize money. If you know someone who is handy with an oyster knife, please ask him or her to join in.

This year we are renting a van to bring volunteers down from the Boston/Duxbury area so we will only need one designated driver to stay sober for the ride home. If anyone needs a room for the night, let us know as we have reserved a block of inexpensive rooms at a local hotel. If you would prefer to come by train to avoid the parking hassles, the Milford Amtrak station is only two blocks from our tent!

We have all sorts of jobs for all levels of ability, and even if you cannot commit to the full event or to a full day, we would really appreciate any time you can give us. So if you can join us Friday, Aug. 19 for Oyster Eve; Saturday, Aug. 20 for the festival; or Sunday, Aug. 21 for clean-up, let us know and we will put you to work!

At our large booth located in the food court area we serve raw and cooked shellfish on Saturday. Across the harbor at Lisman Landing, we have raw-bar and chowder offerings at the pre-festival "Oyster Eve" on Friday evening and again all day Saturday. And of course, we organize the now-famous Oyster Shucking Contest, inviting some of the world's fastest shuckers to compete for bragging rights and thousands in cash prizes.

The festival will be held, rain or shine, Friday, Aug. 19, 6-9:30 p.m.; and Saturday, Aug. 20, 10 a.m. to 6 p.m. Beer, wine, oysters and other great food will be available both days. Admission to the festival is free, with Blue Oyster Cult and the Marshall Tucker Band headlining at the Festival main stage on Saturday. There is plenty to do for everyone, with children's entertainment, a Festival Car Show, 200 arts-and-crafts vendors, amusement rides, schooner cruises, and a canoe and kayak race.



— Photo by Richard Rush

The shucking contest is a big hit every year and gives our hardworking team of paid shuckers a shot at thousands of dollars in prize money.

For more information visit www.milfordoysterfestival.com

If you can help out for any part of the festival, please contact Tricia Koslowski, (203) 804-4263 or tricia.gilbert@yahoo.com.

Hope to see you there!



Triploid Technology for the Oyster Industry



— Photo courtesy www.nhregister.com

Oyster lovers living it up at the Milford Oyster Festival. It takes roughly 100 volunteers to pull off an event of this magnitude.

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— Continued from page 1
Crop Insurance for Shellfish

What types of loss does WFRP protect against?

WFRP provides protection against the loss of gross revenue that you expect to earn or will obtain from commodities you produce or purchase for resale during the insurance period. Revenue loss resulting from unavoidable natural causes and/or decline in market price are insurable causes of loss. Losses must be reported within 72 hours of discovery. Indemnity payment (loss payments received by the grower) occurs when revenue on your Schedule F for the insurance year is less than your insured revenue. Claims are settled after taxes are filed for the insurance year.

What coverage levels are available?

Growers can choose to protect 50-85 percent of their approved gross revenue, but at least three commodities must be produced to be eligible for the 80- and 85-percent coverage levels. Your commodity count, or diversification, also determines the premium rate discount and subsidy.

What information does a grower have to provide for WFRP?

Growers must furnish five years of Schedule F tax forms (or three years for Beginning Farmers, defined as people who have not had insurable interest in a crop or livestock for more than five crop years). They must also furnish sales records from each of these years to justify their Schedule F forms. Growers who file other tax forms with the IRS can use those to create a Substitute Schedule F. Growers must provide a Farm Operation Report for the insurance year showing commodities that will be produced, quantities and expected prices. They may need to update the Farm Operation Report during the insurance year, and must file a final report at the end of the insurance year. Growers producing animals must provide a “beginning” inventory report to show what will be sold during the insurance year and an “end” inventory report to show sales and/or commodities

that remain on hand. Additional reports that may be needed include a report of Accounts Receivable and Payable, and a Pre-Acceptance worksheet for perennial crops (such as apples and blueberries).

How much will a WFRP premium cost?

The WFRP premium will be based on the farm county, the types of commodities produced, amount of revenue from each, the commodity count, and the coverage level selected by the grower. Farms with two or more commodities will receive a whole-farm subsidy resulting in a lower premium cost to the producer. Beginning Farmers will receive an additional 10-percent premium subsidy. WFRP is sold and delivered through private crop insurance agents.

When is the last day to purchase WFRP?

The sales closing date for WFRP is the same as other spring crop sales closing dates for your county and will be either February 28 or March 15 for the 2017 insurance year. Consult your local crop-insurance agent to verify the date. Keep in mind that growers may have to call multiple agents to find one who administers WFRP because it is a new option. Also, paperwork requirements are time-intensive. Contact agents at least three months in advance of the sales closing date.

How does NAP compare to WFRP?

Shellfish growers may be familiar with NAP, FSA’s risk management program. For commodities such as oysters, NAP protects the growers Maximum Dollar Value (MDV) before a disaster in the coverage period. WFRP differs from NAP in various ways:

Coverage levels: Depending on the number of commodities covered, WFRP can offer greater coverage than NAP. The highest level of coverage with NAP is 65 percent of the MDV, whereas the highest coverage with WFRP would be 75-85 percent of the approved gross revenue, depending on the number of commodities covered in the policy.

Grower premium: The minimum NAP premium will always be \$250 for catastrophic

coverage, while the maximum premium will always be \$6,663. Grower premiums with WFRP will vary depending on the number of commodities produced, but growers could expect to pay more for WFRP coverage than for NAP.

Maximum indemnity: The maximum indemnity with NAP is capped at \$125,000, whereas the maximum indemnity (in an extreme-loss scenario) with WFRP would be \$750,000 to \$850,000, depending on the amount of revenue insured, the number of commodities produced and the coverage level selected.

For example, (\$1 million in gross revenue from animals) x 75- or 85-percent WFRP coverage level = \$750,000 or \$850,000 gross revenue protected. If a grower experienced a 100-percent gross revenue loss during the insurance year, the indemnity payment would be \$750,000 or \$850,000.

Growers can purchase both NAP and WFRP but can collect an indemnity from only one policy.

Is WFRP for You?

The efficacy of WFRP as a risk-management tool depends on your ability to create and retain quality farm records. Are you able to keep sales records by crop and by market? Do you adhere to your yearly farm plan? Do your Schedule F forms reflect your actual whole-farm revenue? If you’re unable to use WFRP, consider protecting your crops individually with the NAP program.

For more information on WFRP visit the USDA RMA website,
www.rma.usda.gov/policies/wfrp.html

For more information on the NAP program visit the USDA FSA website,
www.fsa.usda.gov

Use the RMA Agent Locator Tool to find an agent serving your area:
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BILLION OYSTER PARTY



— Photo courtesy New York Harbor Foundation

Some of the 800 oyster-loving party-goers who ate and drank like kings at a 25,000-square-foot manufacturing-warehouse-turned arts-center in Red Hook, Brooklyn.

The third annual Billion Oyster Party held at Pioneer Works in Red Hook, Brooklyn, on May 19 raised over \$200,000 to help restore a sustainable oyster population in New York Harbor. Staff from 40 oyster farms and 17 restaurants, along with students and teachers from the New York Harbor School, put on a vast, movable seafood feast and had a ball.

Growers from different farms and different coasts had a chance to meet in person, talk shop and sample each other's products.

The event raised enough money to bring the new oyster restoration vessel, the Virginia Maitland Sachs, to her home port of New York Harbor.



— Photo by Ann Rheault

Max Sherman of the Ocean State Shellfish Cooperative shucked several varieties of Rhode Island oysters.



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BILLION OYSTER PARTY



— Photo courtesy New York Harbor Foundation
Jeff Gardner (l.) and Travis Ortega of Watch Hill Oysters in Westerly, R.I., shucked for hours.



— Photo by Ann Rheault
Pete Auger and Bill Mook (r.) of Mook Sea Farm in Walpole, Me., in the calm moments before the crowds descended.



— Photo by Ann Rheault
Peter Fu (r.) and Alvaro Torres of the Grand Central Oyster Bar served up Togarashi-spiced bigeye tuna squares over pickled Persian cucumbers with yuzu-ponzu sauce and spiced peanuts. No way you could eat just one.



— Photo courtesy New York Harbor Foundation
Ahi Sweeney, the catering manager at Taylor Shellfish Farms in Seattle, Wash., preparing for the shucking contest.

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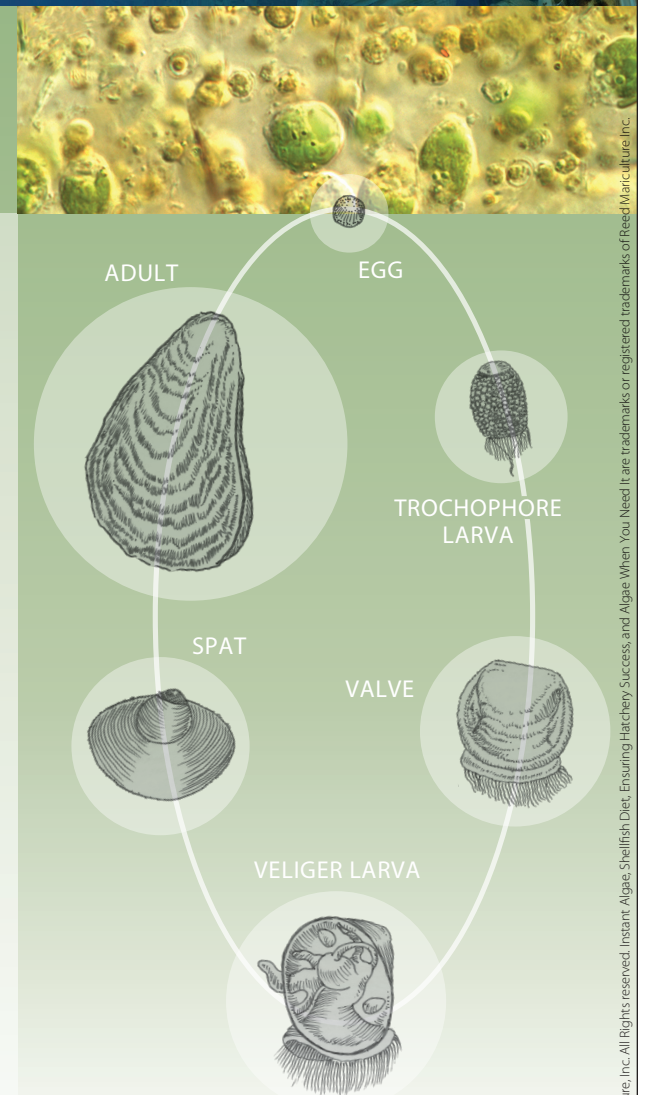
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Do Shellfish Farms Negatively Impact Nearby Property Values?

In the dozens of public hearings I've attended for shellfish farm lease applications, both my own and those of others, objectors always voice a common complaint: that the proposed farms will impair pristine views and damage property values for waterfront homes in the area.

Meanwhile, I have watched the property values of waterfront homes in the vicinity of leases in Point Judith Pond, on R.I.'s southern shore, skyrocket in the 20-plus years since I first started working there. I am happy to take credit for the boost in property values, but as a scientist I know that correlation does not prove causation.

All joking aside, I was pleased to see that this issue has finally been evaluated by professional economists. University of Rhode Island doctoral candidate Pratheesh Sudhakaran recently defended his thesis titled, *Effect of Oyster Farms on Housing Prices in Rhode Island*, which he is now preparing for submission to a peer-reviewed journal.

Sudhakaran writes that, "Using economic theory, a cost-benefit

analysis of oyster farming operations can be conducted by quantifying the negative externality from aquaculture operations on nearby properties. After controlling for general housing price trends, analyzing the difference in housing value before and after the construction of an aquaculture farm will give a good indication of the cost of the negative externality."

In his examination Sudhakaran found "no statistical evidence to prove that the value of housing property adjacent to the farms (within 0.46 miles) ... decreased after the construction of farms.... However, the coefficient associated with the larger property suggests that there is statistical evidence to prove that the housing values of the properties located between 0.46-0.62 miles were adversely affected by the construction of oyster farms."

But even though oyster farms depressed the value of these larger properties, Sudhakaran concluded that "the effect is insignificant in general."

As is so often the case, proponents and detractors of aquaculture



— Photo credit LilaDelman.com

Seafair is a 16,000 sq. ft. mansion listed for \$19 million in Newport, R.I. It boasts 14 bedrooms, 15 baths and a mooring.

will each find points to cherry-pick from this work. My own theory on the subject is that as aquaculture becomes more commonplace, communities will grow more accepting of it. Perceptions will likely change over generations, and any impacts of farms on property values will diminish. As the beneficial economic impacts of shellfish farms become more entwined in the fabric of the community, people will grow to accept them. It's human nature to resist things that are new and different, and, judging by my observations at public hearings, to believe that those new things should probably be illegal.

— RBR

Help Us Help You: Join the ECSGA

Supporting the ECSGA by being a member is good for your business and good for our industry as a whole. Your membership dues helps pay for an executive director who looks out for your interests every day by working with regulators, educating lawmakers and helping the media get the story straight. Whether it's the Interstate Shellfish Sanitation Conference, Food and Drug Administration, NOAA, the Army Corps of Engineers or even local regulators, the ECSGA is constantly striving to ensure that regulations are workable and rational.

Our Listserv has 650 subscribers, we reach more than 1,000 people on FaceBook and we have 800 Twitter followers. But only a tiny fraction of that audience are dues-paying members. As of this writing, 130 of our faithful members have not yet renewed their membership for 2016, and the year is already half over. We know you're busy, but if you receive a membership invoice, please either pay it or drop us a line to let us know you're not satisfied so we can delete you from our membership rolls. We waste an inordinate amount of time and energy sending and re-sending invoices – time that could be spent working to improve our industry.

Whether you're thinking about becoming a member for the first time, or you're renewing your membership, remember that we work hard for you, and your support determines how much we can do for you and your industry.

Check out the membership info and form on the next page. If you'd rather not snail-mail your application and check, visit www.ECSGA.org and click on the [Join](#) button to pay electronically.

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ECSGA Membership Categories and Dues

Growers, dealers and equipment suppliers enjoy full-voting rights. (If you are both a grower and a dealer simply ask yourself where most of your revenue comes from.) If you don't fall into one of these industry categories please consider joining as a non-voting associate member.

Member Type	Gross Annual Sales	Dues
Grower	\$0 to 50,000	\$100
Grower	\$50,000 to \$100,000	\$200
Grower	\$100,000 to 300,000	\$500
Grower	\$300,000 to 3 million	\$1,000
Grower	Over \$3 million	\$1,500
Shellfish Dealers and Equipment Suppliers		\$250
Restaurant Ally		\$100
Non-voting Associate		\$35

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Time to Get Our Regulatory Priorities Straight

by Steve Plant,
Noank Aquaculture Cooperative



Clostridium botulinum, the bacterium that causes botulism, can only survive in oxygen-free (anaerobic) environments. Since the inven-

tion of refrigeration, there has never been a case of botulism in shucked oyster meats. None. Zero. To put this in perspective, you are far more likely to get attacked by a shark, be struck by lightning or be visited by an alien life form than to contract botulism from shellfish. Despite these odds, the U.S. Food

and Drug Administration (FDA) is trying to foist new regulations on the shucker/packer segment of the shellfish industry. The agency wants to mandate the use of new packaging materials that permit oxygen to pass through, since *C. botulinum* cannot survive in the presence of oxygen. They also want to see the ambient temperatures of coolers dropped to 38°F from the currently required 41°F.

If this mandate were enacted, every cooler in every grocery store or seafood shop selling shucked oyster meats would have to be set three degrees lower than the current temperature. It may not seem like much, but do the math on all those outlets throughout the entire U.S. and the costs really mount up. The FDA also wants to mandate that each package bear a temperature-recording strip that changes color if the product is subjected to temperature abuse. What is temperature abuse, anyway? In

this case, it would be any time the temperature of the container (most likely the outside) went above 38°F. So let's say a shopper picks up some shucked oysters in a plastic deli container and makes a few stops before eventually arriving back home. The odds are good that by the time that shopper is ready to put the container into the fridge, it has warmed up and the indicator strip has changed color after a period of time above 38°F. (Keep in mind that few homeowners keep their refrigerators set below 38°F.) In the buyer's mind, that strip is signaling that the oysters are no longer safe to eat, making him or her inclined to discard the oysters and to be reluctant to buy them again.



— Photo by Iowa State University Extension

Spores of *Clostridium botulinum*, the organism that causes botulism, can be found nearly everywhere. When the spores start growing into actively dividing bacteria they produce a deadly neurotoxin. So far there has never been a case of botulism linked to shucked oysters.

Let's think about this for a moment. You are asking an industry segment to adopt a radical change in packaging, while at the same time asking the entire food distribution network to lower their cooler temperatures, all for a food-borne illness that has never occurred. When questioned about this at a joint industry-FDA meeting in Washington, D.C., in April, one of the FDA representatives said, "How would we look if we did nothing and then somebody came down with a case [of botulism]." At the time no one in the meeting called them on this, but it begs the question: is the FDA truly trying to address a credible risk, or just attempting to cover their butts because it doesn't cost them anything to add a new regulation?

Using the FDA's own Seafood HACCP preventative approach to food safety, it's clear that based on historical evidence, botulism in oysters is a hazard unlikely to occur. Therefore, we do not need to create a new critical control point to address this hazard.

In all fairness, the FDA has found *C. botulinum* spores in some shucked oyster samples. The spores are found nearly everywhere, and are generally harmless. Problems occur when the spores start growing as active bacteria and produce the powerful neurotoxins that cause botulism. The possibility of contracting botulism from shucked oyster meats is an interesting question, but not high up on the list of legitimate health concerns. It certainly doesn't merit new regulations to deal with such an unlikely threat.

We have enough real problems without pulling a new one down out of thin air. Funding is tight. Flat budgets are the new normal. We should be focusing our limited food-safety resources solving problems that are actually on the priority list.

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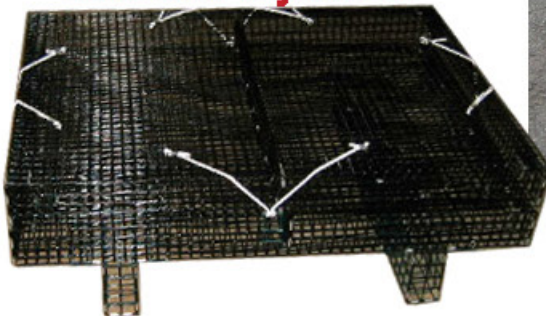
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— Photo courtesy of
Jimmy Bloom

Rapid cooling of harvested oysters by Norm Bloom and Son in Norwalk, Conn. Insulated containers on the harvest boat are pre-filled with 6-8 totes of ice and then seawater is pumped in to make a slurry. Oysters reach 40°F in 10-30 minutes, the water is drained, and some ice is thrown on top. It doesn't take much ice to keep them cold once they've cooled down.

Ice-Slurry Dips Can Cool Shellfish Fast, Slowing *Vibrio* Growth in Summer

by Robert Rheault,
ECSCA Executive Director

The Centers for Disease Control and Prevention (CDC) has released its 2014 analysis of food-borne illness outbreaks, which are defined as two or more cases of a similar illness resulting from unrelated individuals ingesting a common food. The full report can be found at www.cdc.gov/food-safety/pdfs/foodborne-outbreaks-annual-report-2014-508.pdf.

The CDC listed eight *Vibrio parahaemolyticus* outbreaks that sickened 28 individuals and resulted in three hospitalizations. In total 2014 saw 864 food-borne illness outbreaks that sickened 13,246 individuals and resulted in 712 hospitalizations. Molluscan shellfish were implicated in only 16 of those outbreaks (around two percent of the total) and about 103 illnesses (less than one percent of the total). The highest number of outbreak-associated illnesses came from seeded vegetables; cucumbers or tomatoes were implicated in 428 illnesses (16 percent), chicken in 354 illnesses (13 percent) and dairy in 267 illnesses (10 percent).

It is always good when shellfish are not highlighted as one of the

most dangerous foods you can eat, but we still need to remain vigilant! *Vibrio* season is upon us and we need to keep product cold or risk illnesses, expensive recalls and mountains of new regulations.

Ice-slurry dips are a great way to cool shellfish fast. Following are some tips on dips:

- ❑ Use about 1/3 ice by volume. Add water from an approved growing area to make up the slurry.
- ❑ Try to shoot for about 40°F; too much colder and you risk shocking the oysters and getting either mortalities or reduced shelf-life issues (I would not suggest this treatment for clams). Chris Sherman, the president of Island Creek Oysters in Duxbury, Mass., notes that he has “not seen any shelf-life issues related to slurrying oysters down to as low as 36°F if they are removed from the slurry and transferred to refrigeration (or water is drained from slurry and product/ice left in container) as soon as product temp is achieved (10-15 min). Additional weight is an issue for small boats, but we bought a 30' pontoon barge for large/multiple lots for less than the cost of a Carolina skiff hull.”
- ❑ Large, thick-shelled, bottom-grown oysters from Connecticut were brought down from a toasty 85°F to under 50°F in 10-30 minutes. Smaller, thin-shelled oysters would likely cool down more rapidly.
- ❑ Once cooled below 50°F oysters should be held in an insulated container with a drain, but it doesn't take much ice to keep them cool until you get to the dealer.



Starting color



Ending color

Vitsab's Smart Shellstock TTI-Labels

were developed with the help of federal and state regulators. Designed to mirror *Vibrio* growth according to the dynamic relationship between time and temperature, these cost-effective tools can monitor shellstock from harvest to plate. Working on “Stop Light” technology, the round window turns green when activated and remains green for 90% of its life.

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Food Scares of the Week

As scientists develop ever more sensitive measuring devices we are finding trace amounts of chemicals, metals and radioactive compounds pretty much everywhere we look, but do we need to worry about these levels? Do they have any impact on public health? If you tell consumers there is PCB, mercury or radioactive nuclides in their food you can be pretty sure they are going to be turned off. Reading the comments from trolls on posts about seafood will reveal all sorts of advice about why you should avoid seafood. It is human nature to be scared by things you can't see and don't understand, so I thought I would do a little research on a few of these scares and see if there is really anything to worry about.

Mercury in Fish

So many Americans stopped eating seafood because of fears about mercury that the FDA revised their advisory to make it clearer that the FDA maintains their recommendation of eating two-to-three seafood meals a week, even for pregnant women, noting that, "primary research studies with pregnant women have consistently found that the nutritional value of fish is important during growth and development before birth, even though nearly all fish contain at least traces of mercury." (See www.fda.gov/Food/FoodbornellnessContaminants/Metals/ucm393070.htm)

The risk of not providing essential nutrients to your unborn child by avoiding fish during pregnancy exceeds the risks from the trace amounts of mercury in the fish. There are only four species of fish that the FDA advises pregnant women to avoid: swordfish, shark, tilefish from the Gulf of Mexico and King mackerel.

Plastic Microbeads

In recent months I have been fielding a flurry of inquiries about plastic microbeads and potential concerns about eating oysters and fish. A recent article (www.nature.com/news/microplastics-damage-oyster-fertility-1.19286) reported that oysters fed microbeads suffered from reduced fertility. While I am no fan of plastic waste in our

oceans, I had not really looked at microbeads as a bio-hazard or a food-safety concern. Of course you wouldn't let your child choke on a plastic water-bottle cap, but in general plastics tend to be fairly inert (which is part of why they are widely used in food packaging). The oceans are full of inert particles. Silt, clay and sand are suspended in seawater, and fish and shellfish somehow manage



— Photo courtesy of 5gyres.org

Plastic microbeads have been found in bivalves destined for human consumption, but the jury is still out on whether or not they pose a threat to human health.

to tolerate these. So I scoured the literature to see what might be different about microbead particles. There is one obvious difference: micro plastics typically float, while most silt eventually sinks (depending on its density) so the plastic will persist longer and, especially in oceanic waters, the plastics will dominate. But even out in the middle of the ocean dust is constantly raining down from the atmosphere.

Then there were disturbing claims that the plastic particles tend to adsorb pollutants and heavy metals from seawater, and that bacteria like to colonize plastic surfaces. This is valid, but it is also true of essentially any particle in the marine environment. Whether a particle is composed of silt or plastic, it will tend to adsorb chemicals and metals on its surface, and marine bacteria will colonize any particles, so I don't see how plastic particles are significantly different from silt.

Of course if a marine animal has its mouth, throat or digestive tract blocked by a particle (scaled up to humans it would be like a rock or a Lego® block) it probably doesn't matter if the particle is plastic or a natural substance. I certainly don't want to minimize the problems posed by a huge and ever-growing floating island of plastic debris. The World Economic Forum estimated that 300 million tons of plastic waste enters the world's oceans every year. (www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf). I sincerely hope we learn to stop throwing plastic trash in the ocean, and that reports of newly discovered plastic-eating bacteria are true (phys.org/news/2016-03-newly-bacteria-plastic-bottles.html). But I have yet to see any scientific evidence that micro-plastics present a unique and significant threat to human health.

Fukushima Radiation

You may have read reports that radiation from the Fukushima nuclear power plant disaster in 2011 is contaminating the entire Pacific Ocean. Or you may have seen pictures of fish sporting horrific tumors attributed to nuclear radiation. The internet is full of these types of disturbing reports, and many gullible people who believe these wild claims have sworn off seafood and are advising everyone else to do the same. However, just a little bit of digging



— Photo courtesy www.globalresearch.ca
Claims of seafood contaminated by radiation from the Fukushima disaster are overblown.

reveals the truth. Many of the disturbing tumor pictures were taken well before the Fukushima disaster (www.snopes.com/fukushima-radiation-marine-photos), and none provided any evidence that the tumors were radiation-related.

One study did reveal that tuna being served in California had detectable levels of ¹³⁷Cesium traceable to the Fukushima meltdown, (www.pnas.org/content/109/24/9483.abstract?sid=53a49745-b507-4806-b044-1dafd59b308f). But rarely is it mentioned that the amount of radioactive Cesium detected in the tuna doesn't come close to exceeding safety limits. In fact, the radioactivity coming from a serving of tuna was only about five percent of what you'd get from the naturally occurring radioactive potassium in one banana. You're likely to get a much bigger dose of radiation from flying in an airplane, living in Denver or having an x-ray.

— RBR

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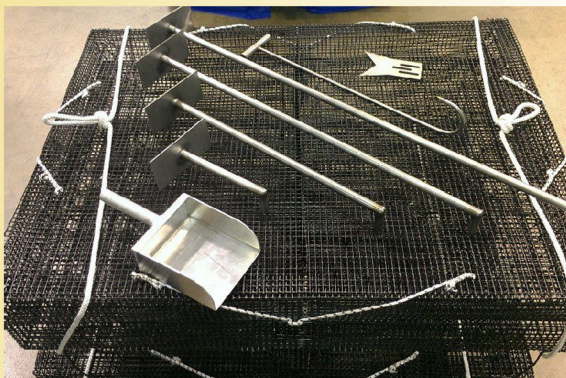
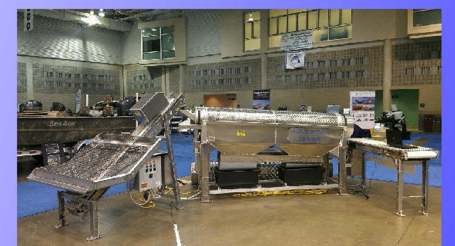
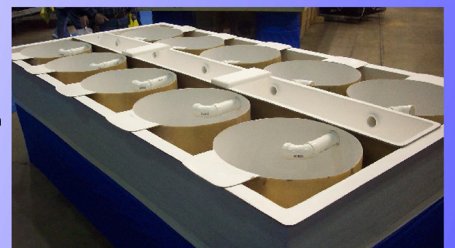
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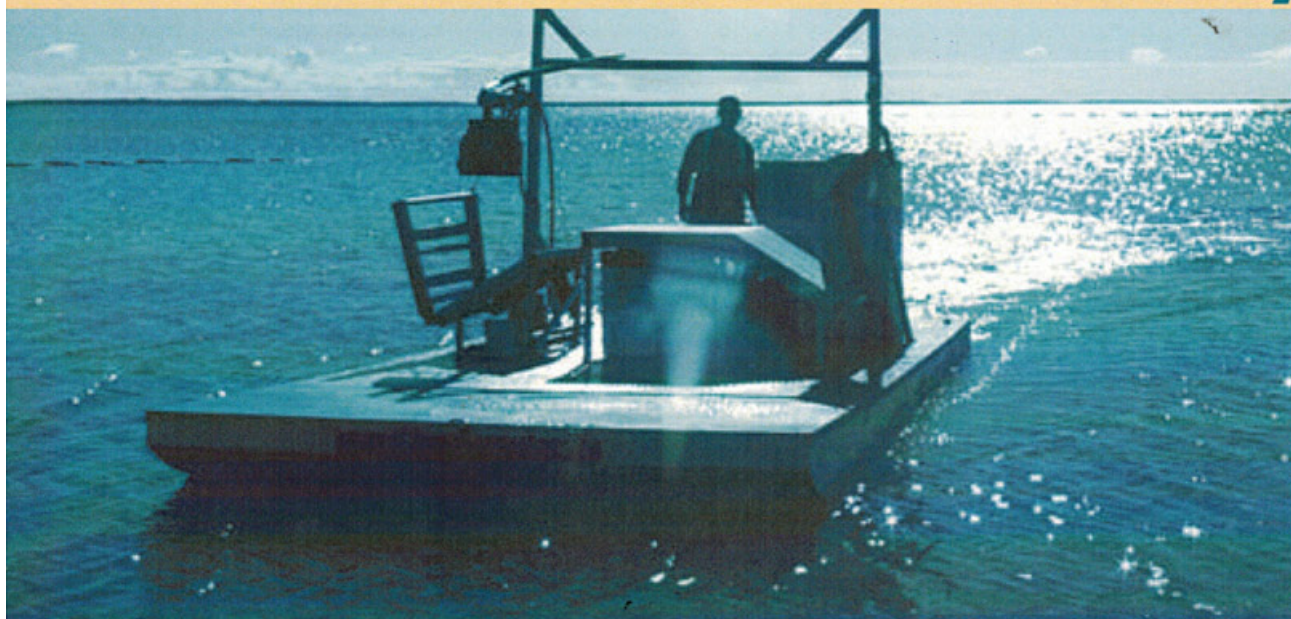
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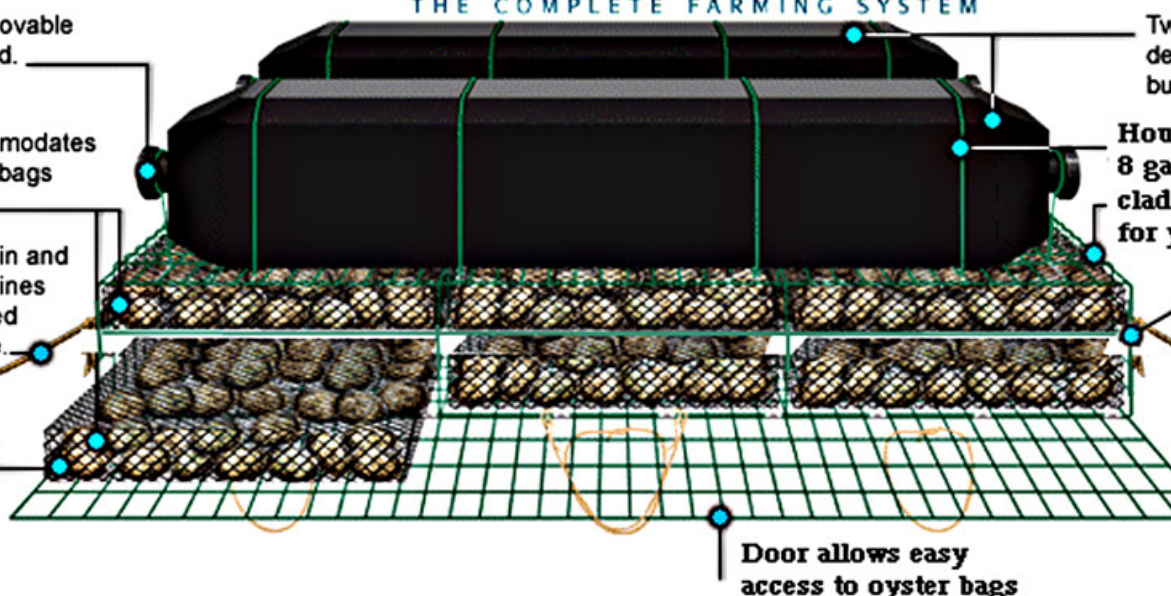
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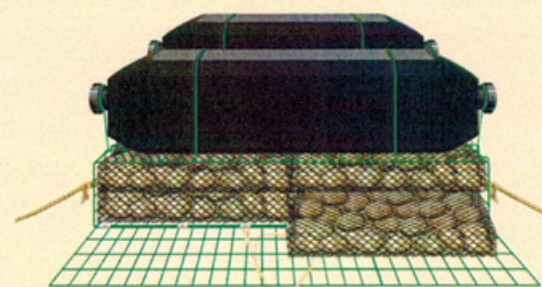
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What Does the Executive Director Do, Anyway?

by Robert Rheault,
ECSCA Executive Director

Aside from managing the many moving parts of the association day-to-day, working with the Interstate Shellfish Sanitation Conference (ISSC), informing elected representatives about our issues, sifting through tons of reports for critical developments shellfish farmers need to know about, and writing letters, I am also an appointee to the Marine Fisheries Advisory Committee (MAFAC). This is a group of 21 fishers, scientists, environmentalists and aquaculture experts that meets twice a year to advise NOAA and the U.S. Secretary of Commerce on all living marine resource matters that fall under the purview of the Department of Commerce.

We tackle pressing big-picture issues and write position papers to guide National Marine Fisheries Service (NMFS) policies and budget

priorities. It is refreshing to talk to fisheries professionals without getting wrapped up in the local sector-allocation fights that tend to dominate state and regional fisheries council discussions. Halfway through my second (and final) three-year term I can report that the MAFAC has thoughtfully examined a diverse and challenging set of issues. We recommended that NMFS initiate a seafood certification program to inform consumers that all fish landed under the Magnuson-Stevens Act (MSA) are sustainably harvested. We also crafted a brief title on aquaculture for potential inclusion in the next reauthorization of the MSA. We developed a mock offshore marine aquaculture project application to test out the leasing and permitting structure being proposed for the Gulf of Mexico.

Recently, the MAFAC has been tasked by NOAA to look at ways to improve resiliency



— Photo by Tom Richardson,
New EnglandBoating.com

MAFAC is studying ways to improve resiliency of fishing communities.

in fisheries stocks in the face of climate change. I have been pointing out the many tools the aquaculture industry has developed and is currently using to improve fisheries, such as oyster reef construction to provide habitat, hatcheries used for stock enhancement, coral farming and others). One aspect of resiliency in fisheries is the economic resilience of the fishers and their communities. Aquaculture provides good,

stable employment for people who may need to find new jobs if fish populations are negatively impacted by climate change. In addition, fish and shellfish farmers also help to preserve working waterfront, as well as processing and shipping capacity. Farmers are also helping to keep the trap builders, Grundens sellers and outboard repair shops busy.

To learn more about MAFAC, visit www.nmfs.noaa.gov/ocs/mafac



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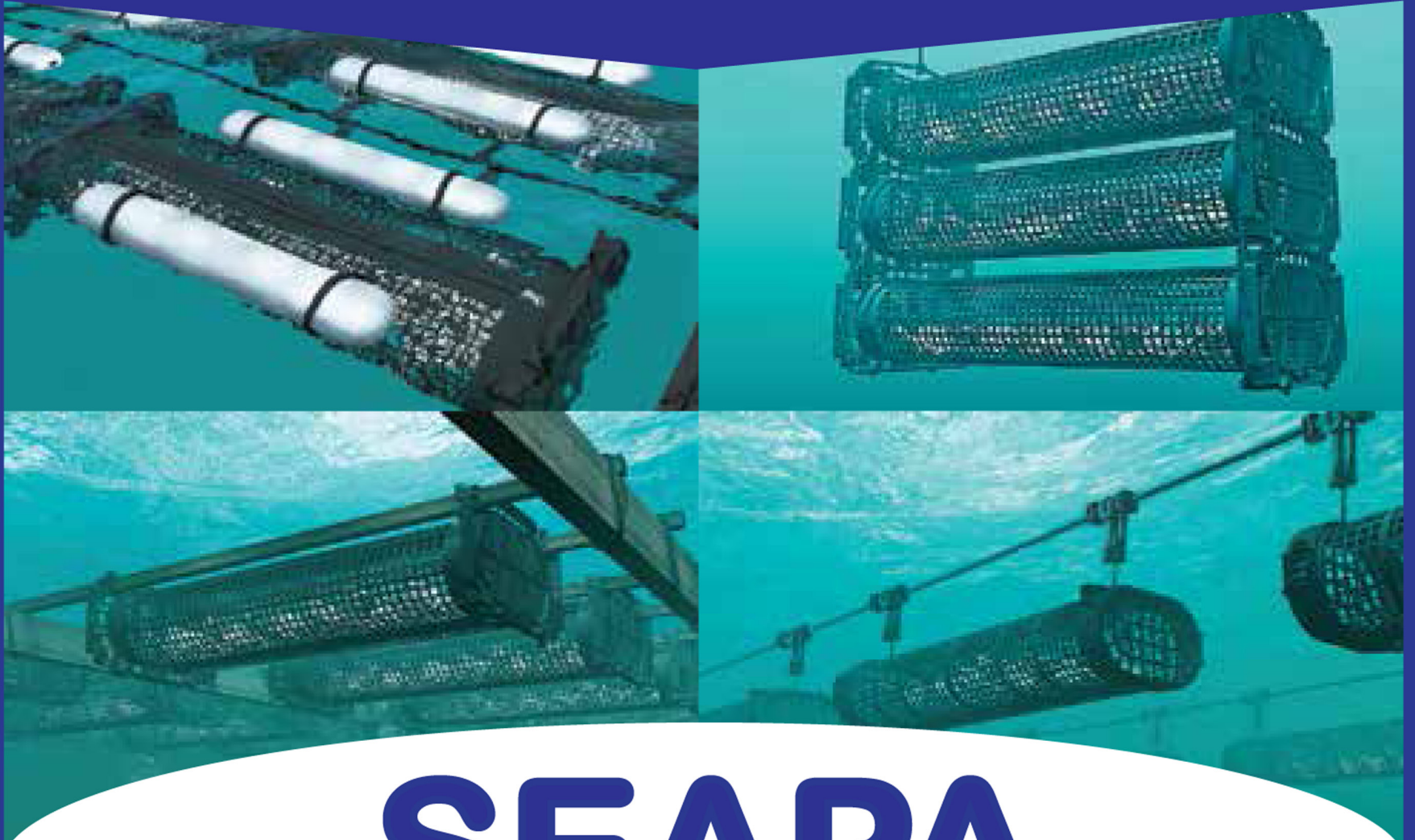
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Back by Popular Demand: Regulatory Outrage of the Month

by Robert Rheault,
ECSCA Executive Director

We had several strong candidates for this month's award. For your consideration, the top two contenders.

Knot in My Backyard

In an effort to help recover threatened populations of the Red Knot shorebird, New Jersey regulators have decided to crack down on shellfish aquaculture threats in Cape May. Red Knots embark on epic annual migrations from the Arctic to Argentina (where apparently they are considered a delicacy), stopping over on Cape May beaches to fatten up on horseshoe-crab eggs. These beaches are vast, covering several square miles; in a small section oyster farmers are working on the flats a few hundred feet offshore. Assuming that the farmers are interfering with the birds' feeding activities, regulators have decided to move or eliminate several farms. Even if the farms are interfering with the birds, removing them will have little impact – still only one percent of the feeding area would be free from disturbance.

Were there similar efforts to limit dog-walking, shoreline construction, fishing, beach-combing



— Photo by Haley Jordan, www.whsrn.org
Cannon net being deployed on Delaware Bay to gather information on shorebird populations.



— Photo copyright 2016, Marinas.com

The Point Judith Harbor of Refuge, Narragansett, R.I., where a proposed kelp farm met with opposition from regulators and duck hunters.

or birding on these sensitive flats? No, that would have been too controversial.

Were growers allowed to conduct studies to determine if the birds were bothered by farmers working hundreds of feet away? No, why confuse these decisions with facts when you think you know the answers already? Is it any wonder these birds are skittish around humans when wildlife biologists use cannon-launched nets to trap the birds so they can be banded and measured? Could it be possible that these other activities interfere with the birds' feeding?

Duck, Duck, Goose!

Department of Environmental Management (DEM) regulators in Rhode Island recently objected to the site of a proposed kelp farm just inside the Point Judith Harbor of Refuge, asserting that the location was critical diving-duck habitat. DEM feared that tending the kelp lines a couple of days a month during the winter might disturb the ducks' feeding. Rhode Island duck hunters also filed a letter of objection to the proposal, on the grounds that the proposed location is one of their best duck-hunting spots, and they feared the presence of the farmer a few days a month could make it harder for them to shoot the ducks. My sense is that if the ducks are in need of protection, maybe a few days a month of inhibited hunting

might be a good thing. If state regulators are truly concerned about duck welfare they should be supporting the farm!

Save the Date NACE & Milford Jan. 11-13, 2017

The date for the joint meeting of the biennial Northeast Aquaculture Conference and Expo (NACE) and the 37th annual Milford Aquaculture Conference has been set for Jan. 11-13, 2017, at the Omni Providence Hotel in Providence, R.I.

For general conference info contact Chris Davis, (207) 832-1075 or cdavis@midcoast.com.

For vendor/exhibition info contact Gef Flimlin, (732) 349-1152 or flimlin@aesop.rutgers.edu.

More information can be found on the conference website:
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