East Coast Shellfish Growers Association

The East Coast Shellfish Growers Association represents more than 2,000 shellfish farmers from Maine to Florida and the Gulf states. 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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From the President

Let's Tell Our Story

President
Jeff Auger

What a month March is. Constant industry-related conferences and events: we had Aquaculture America 2025, The Boston Seafood Show, Oyster South and finally, the North Carolina Aquaculture Development Conference. It was great to see so many familiar faces at these events and to see so many new farmers who showed up to learn. All these events reinforce the great community we have and make it easy to remember that we have a tremendous story to tell about what we do: produce healthy, sustainable seafood that can help preserve our coastlines and return them to working waterfronts.

This will not be the most optimistic newsletter you have ever read. We are facing a bit of a chaotic time, where traditional policies and structures are being questioned and reworked. Furthermore, you will hear from Bob Rheault on the challenges facing farmers through market trends, increased labor and supply costs, and a decline in fine-dining consumers. All of these pressures can tempt us to look for a culprit to blame, but I would argue that our energy is better spent looking for opportunities in the changing landscape facing us all. We cannot expect to act and operate in the same manner we did 10? 15? years ago, it's time to get serious about increasing our market size to find new homes for our products.

Marketing can be a daunting challenge and one that we have not had much experience with over the years, but I think we are poised to capitalize on an authentic, timely story of bringing high-quality protein to the table. ECSGA also has guidance to help you form a plan and understand where/how to start: check out the "Marketing" tab on our website, where you will find numerous aids including, but not limited to: tips on how to select shellfish, finding dealers, understanding consumer desires, and an "Intro to Marketing Oysters" by none other than Bob himself.

Traditionally our industry has leaned on our dealers/distributors to help market the farms and tell our stories. They have done a great job communicating the work we do, but the times might be changing, and farmers may need to take on more of a role. Social media can help, but I think it's going to take new and innovative ideas to help

—Continued on page 16

Evolving Oyster Markets

by Robert Rheault, ECSGA Executive Director

For the past year, I have been working with a small team on a NOAA–funded project to predict the future markets for oysters in the U.S. Bobbi Hudson (Executive Director of the Pacific Shellfish Institute) and Matt Parker (an extension agent at the University of Maryland specializing in aquaculture business) collaborated on assembling the soon-to-be published report.

It proved to be quite challenging to pull together all of the state production data, and it was fascinating to interview dozens of experts from around the country. The findings were interesting and, honestly, quite concerning. I knew it would be tough to get harvest data from the states, as this is something I have been trying to track for East Coast states for decades. Some states report in bushels, some by count, some by the sack, some by pounds, and some by gallons of meat. Conversion factors vary widely, so a bushel can range from 200-350 oysters, with a similar range for gallons of meat.

Since we were trying to model markets, we also tried to capture wild-harvest landings. In many states, there is not really a bright line between wild and farmed oysters. In some states you have hatchery-reared oysters grown intensively in bags, cages, and trays, while in others you have wild-set oysters that are grown out on private leases. Some states are even using hatchery-reared larvae set on shell for private growout, public fishery enhancement, and reef restoration. It took most of a year to gather the data, and in some cases the numbers are more than a little questionable. It would be valuable to have uniform methods of collecting shellfish landings data.

Significant regional differences exist in the industry's nature, production methods, trends, and even seasonal consumption patterns. Regulations and leasing laws have a huge impact on production in certain states. The

OYSTER HOUSE

Higher prices at restaurants to keep up with increased food and labor costs have led to $4 and $5 oysters, deterring diners from ordering dozens. More than half of fine-dining establishments have reported declines in patronage, as budget-conscious customers are favoring takeout and "fast-casual" options. This trend certainly does not bode well for oyster consumption.

development of MSX–resistant oysters ushered in a massive increase in Virginia's production starting in 2010 that dwarfed much of the East Coast.

On the East Coast, we found strong growth in production from 2000 to 2015, with regular increases in price and production in the major producing states. But after 2015, farmed-oyster production leveled off,

—Continued on page 4

Birds and Shellfish Sanitation (Round 3)

by Robert Rheault,
ECSGA Executive Director

For the third year in a row, I held a special session titled, "Birds and Shellfish Sanitation" at the National Shellfisheries Association (NSA) annual meeting, held at Aquaculture America in New Orleans in March. We combined our session with a workshop presented by the Interstate Shellfish Sanitation Conference's (ISSC) Aquatic Bird Risk Assessment Committee. Unfortunately, our federal partners from the Food and Drug Administration (FDA), Centers for Disease Control (CDC), Environmental Protection Agency (EPA), and National Oceanic and Atmospheric Administration (NOAA) were not allowed to attend, so we missed out on some key presentations and perspectives.

We hope our federal partners will take advantage of the opportunity to view some of the presentations that were recorded and posted online at www.issc.org/birds-shellfish-sanitation. It's impossible to encapsulate all the information presented in just a few pages here, so I encourage you to watch the online presentations for a fuller appreciation of the subject. (Notes from previous NSA bird sessions and related publications are posted at ecsga.org/bird-interactions.)

I kicked off the March bird session highlighting some of what we know about the pathogen risk, illness history, and related science. The CDC reported 10 *Campylobacter* illness outbreaks related to oyster consumption in the 14-year period from 2009 to 2023, with 63 separate illnesses and seven hospitalizations. This is orders of magnitude below what we see for *Vibrios* or norovirus. We know from several sources that about 5-10% of wild birds are known to carry *Campylobacter*, and fewer than 1% of *Campylobacter* serotypes are harmful to humans. This means that less than one in 1,000 sea birds carries a human pathogen. (*Salmonella* and *Cryptosporidium* are even rarer).

Kohl Kanwit, the Director of the Bureau of Public Health and Aquaculture for the Maine Department of Marine Resources (DMR), described a Campy outbreak in Maine last June that sickened six folks who ate oysters from a shallow cove in Freeport. She described how information tends to trickle in and explained the challenges of narrowing down the source of the illnesses, dealing with area closures, and developing reopening criteria.

Dylan Bakner, a post-doctoral researcher from the University of Rhode Island (URI), described studies on six farms in Massachusetts and Rhode Island that evaluated seasonal bird distributions and the effectiveness of various deterrent measures, while also sampling for coliforms and Campy in bird guano, oysters, and water samples. There was no correlation between bird counts and coliform levels, and very few samples detected *Campylobacter*. Thin bungee cords stretched over the floats of Oyster-Gro™ type cages were effective at deterring roosting birds (See photo on page 7).

RACHEL HUTCHINSON/CAPE COD COOPERATIVE EXTENSION

This combination eye-safe green laser and bird-distress-call broadcast system was tested on several farms on Cape Cod. The lasers were not effective repellents, but the distress calls were.

Luke Matvey, a graduate student at Auburn University's Shellfish Lab in Alabama, presented a second year of data on seasonal bird counts, deterrent effectiveness, and fresh *Campylobacter* samples collected from floats and pilings. He documented a seasonal progression of cormorants, gulls, terns, and pelicans on floating gear and Australian longline gear. Matvey confirmed that only 5-7% of birds appear to harbor Campy, and that the species of *Campylobacter* he detected in oysters were not known to be human pathogens. Long-legged birds (such as egrets and herons) seemed unfazed by zip-tie deterrents, and although pelicans would often stand on them, most birds preferred to roost elsewhere.

Rachel Hutchinson, of Cape Cod Cooperative Extension Marine Program, reported on the effectiveness of randomly bouncing eye-safe green lasers in conjunction with broadcasting bird distress calls on several farms. While the lasers work well in orchards and crop fields, they did not appear to be effective on oyster gear. The team proposes to try different wavelengths next summer. The bird distress calls seemed to work at repelling birds, but they also disturbed farm workers and nearby boaters. Since the presence of workers themselves pretty effectively keeps birds away, some farms might be able to activate the calls only when the farm workers and boaters are not around.

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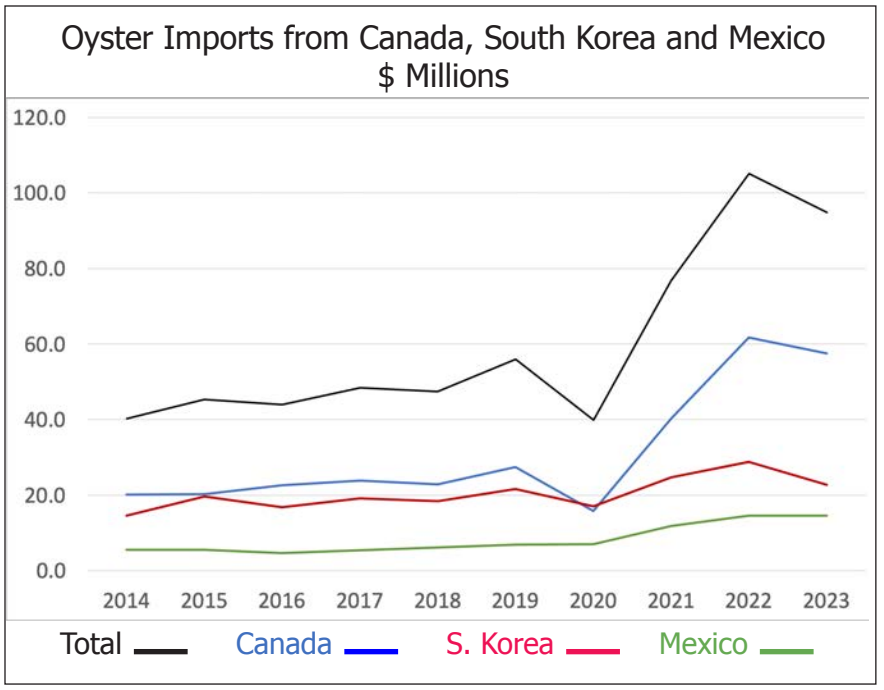
Oyster Markets

prices stopped climbing, and inflation-adjusted prices to the growers actually dipped.

There was a sharp 30% drop in sales nationwide in 2020 due to the pandemic, but at least on the East Coast, production bounced back. West Coast production of Pacific oysters was remarkably constant from 2005 up until the pandemic hit in 2020, but appears to have tailed off since, rather than recovering.

Gulf Coast farmed oyster production is still largely dependent on wild spat, and therefore varies widely from year to year. Disruptions such as Hurricane Katrina in 2005, the Deepwater Horizon oil spill in 2010, and the Mississippi River diversion efforts resulted in large swings in both wild and farmed production in Louisiana, the largest producing state in the nation.

One of the big revelations of the project was significant increases in imported oysters from Canada and Mexico in the years following the pandemic. After 2020, imports of live, fresh oysters roughly tripled in value to over $75 million, with Canada sending up to $60 million worth



FISHERIES.NOAA.GOV

(mostly from Atlantic Canada farms) and Mexico sending $15 million worth. An additional $15 million worth of frozen oyster meats (and $355,000 to $720,000 of fresh oysters) is coming in from South Korea, which has indicated it intends to double or triple exports to the U.S. going forward. However, with the volatile tariff situation, it's unclear what our global trading partners will be shipping into the U.S. (See story on Page 11)

As of this writing, the strong U.S. dollar makes these imported products relatively inexpensive, a trend that is being exacerbated by recent threats of tariffs that are driving competing currencies lower. Foreign producers also enjoy structural advantages. Governmental support, subsidies, and reduced regulatory costs allow for the development of very large farms that let foreign producers take advantage of significant economies of scale.

In an effort to level the playing field, the ECSGA board of directors submitted a letter to trade officials asking for import tariffs on oysters, in spite of the fact that many of us are strong proponents of free trade and open markets.

Our market project also documented other important trends impacting growers in the U.S. While our ability to raise prices to buyers has been stifled for the past seven to 10 years, input costs have risen dramatically. Labor costs shot up sharply after the pandemic, with wages slightly exceeding the inflationary spike that ensued. The National Restaurant Association reports that labor now accounts for up to 40% of operating expenses, up from 30% pre-pandemic. Growers have found it harder to find affordable help as well. Cage wire, rope, fuel, and shipping costs have all risen sharply.

The trend of rising input costs, flat demand trends, and farmgate prices is clearly putting the squeeze on growers' profit margins. Given that the majority of oyster farmers are small-scale operators with fewer than five employees, it is hard to take advantage of proven economies of scale. Matt Parker's PhD. thesis examined the impact of the scale of production on the break-even cost for the farmer. He showed that growers who produce over 2.5 million oysters a year can make a profit selling an oyster for half the price of a grower who sells only 500,000 a year. This exerts tremendous pressure on smaller farms to consolidate or grow to scale.

Meanwhile, as restaurants raised prices to keep up with food and labor costs, more than half of fine-dining establishments reported declines in patronage, as many budget-conscious diners began favoring takeout and "fast-casual" options. This trend certainly does not bode well for oyster consumption.

While growers and wholesale dealers report that they have been unable to raise prices for almost a decade, oyster prices in restaurants have increased significantly, keeping pace with inflation. Sticker shock at the restaurant is probably making diners think twice about ordering a dozen oysters, and that may stifle demand until consum-

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Birds and Shellfish Sanitation

Pax Lindell of Guardian Technologies Group described an acoustic device that confuses birds trying to communicate with each other, making them feel unsafe and driving them away. It has proven to be an effective deterrent in terrestrial settings, and he hopes to conduct tests on an oyster farm in Virginia this summer.

Joe Gerkin, an extension specialist at Kansas State University, described a high-intensity laser (much higher than the one tested on Cape Cod) that could be effective at deterring birds, assuming regulators are willing to permit growers to deploy them and that growers are able to afford them.

Nicole Richard, a researcher in food sciences at the University of Rhode Island, described the results of a preliminary experiment to determine how long it takes for oysters to purge *Campylobacter* after being dosed with high levels of three clinical strains from species collected from earlier outbreaks. She found that the bacteria were no longer detectable after five to nine days. Richard hopes to be able to repeat the work soon and to narrow down the recommended depuration time for animals that have been exposed to guano.

Bobbi Hudson, Executive Director of the Pacific Shellfish Institute (PSI), noted that research shows the risk of illness from wild birds is incredibly rare, and quoted a study concluding that, "…current data do not provide sufficient information to determine the likelihood of enteric pathogen spillover from wild birds to humans and thus preclude management solutions." Hudson emphasized the benefits of large tides and strong currents in further diluting the pathogens and minimizing risk, asking, "How much cost can we justify inflicting on the industry based on this level of risk? Shouldn't we focus our limited resources on the greater threats of *Vibrios* and norovirus?" Hudson also described a PSI study that failed to correlate bird counts with fecal coliform levels at two sites in Willapa Bay, Washington, even when targeting periods of substantial bird presence. The growing areas remained well within limits (<14 colonies/100 ml, with ≤10% exceeding >43 colonies/100 ml).

LUKE MATVEY/AUBURN UNIV. SHELLFISH LAB

Luke Matvey tested a simple, inexpensive physical deterrent on floating oyster cages at the Auburn Shellfish Lab's experimental oyster farm sites in the Mississippi Sound. The cage in the foreground was fitted with zip-ties (sometimes called ticklers) to deter birds, the ones in the background loaded with pelicans had no deterrents. Although the deterrent cages aren't 100% effective in keeping birds from landing, Matvey hypothesizes that social behaviors may impact a bird's likelihood to compromise and loaf in an unfavorable spot.

The afternoon ISSC workshop featured a presentation by University of North Carolina researcher Rachel Nobel, who has developed a digital droplet PCR method that can quantify *Campylobacter* and identify different species and serotypes. Most importantly, she has been able to differentiate pathogenic strains from serotypes that are not human pathogens. Like *Vibrio*, *Campylobacter* is a very diverse genus, with more than 29 species and thousands of serotypes, but the overwhelming majority are not pathogenic to humans. It is important that we focus on the serotypes that impact human health.

According to the CDC, 90% of the 1.5 million illnesses in the U.S. are caused by *Campylobacter jejuni*, and of the 3,557 *C. jejuni* serotypes, only 28 have been associated with illness outbreaks. *C. jejuni* does not like oxygen, UV light, desiccation, or even moderately high-salinity waters. It prefers very high temperatures (typical of mammal or bird intestines) and won't proliferate at cooler temperatures. *C. lari* is responsible for about 10% of illnesses. It is better adapted to the marine environment, and is more commonly detected in seawater and shellfish samples.

Kohl Kanwit gave a second presentation on how Maine DMR dealt with the reopening criteria following the June illness outbreak in Freeport. In this event, the implicated species was *Campylobacter coli*. Lacking the capability of testing for *Campylobacter*, Kanwit instructed her staff to evaluate fecal coliform loading in the harvest area instead. While the area was not considered impaired, sampling in the floating bags where guano

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Birds and Shellfish Sanitation

was evident revealed meat coliform levels that were quite high and variable. She mandated resubmergence for the implicated farms and recommended the practice for all Maine growers using floating bags.

Having seen outbreaks in other states where Campy was monitored as a reopening criteria, it has become clear that if there are any birds in an area, you are likely to find Campy. However, unless you have the ability to determine pathogenicity, you are quite likely to detect benign serotypes, which is not helpful and may force you to keep the area closed well after the risk has subsided. Kanwit advised growers to **keep a log of bird presence** when they visit the farm to develop a record of seasonality.

Keith Skiles, the Executive Director of the ISSC, gave a presentation on options that state Shellfish Authorities might consider when birds are implicated in elevated coliform levels, forcing the closure of harvest areas. If levels trip the geometric mean or 90th percentile confidence interval criteria, the Authority usually has little option but to reclassify the area as "Restricted." This usually requires years of sampling to generate enough data to reopen, but there might be alternatives. Using the Conditional classification or the Emergency Closure rules might allow the Authority to disregard the aberrant samples if it can be demonstrated that birds are the cause and the birds are gone. The process is complex, so I encourage interested folks to watch his presentation online because it would take me pages to explain it.

Chris Schillachi, who works for NOAA Research (OAR) and chairs the ISSC Aquaculture Committee, shared a presentation that described the Guidance developed in the 2023 NSSP. The guidance was intended to provide some considerations that state Authorities can use when evaluating the risk of birds or mammals that may be attracted to shellfish farming gear. Bird seasonality, water current, and submergence requirements were all offered as tools the Authorities can use to mitigate risk. The

HEATHER KETCHAM/
KETCHAM SUPPLY

Dylan Bakner from the University of Rhode Island used thin bungee cords strung on top of floating cages to keep birds from landing (similar to the system shown here). The bungees are cheap, easy to install and to remove, and proved effective at deterring birds.

Committee continues to discuss revisions to the section as new information comes to light. We hope to develop a proposal to refine the guidance at the ISSC conference in October.

Unfortunately, the FDA, CDC, and EPA were not allowed to participate at all in the New Orleans conference. One of the star speakers, John Ravenscroft of the EPA, was slated to present the findings of the Technical Reference Document developed to examine the risk of illness from swimming in bathing waters impacted by non-human sources of waste, such as birds or dogs. The risk assessment showed that for a given level of indicator bacteria, the level of risk is two orders of magnitude less if the waste is from gulls as opposed to humans. I strongly encourage everyone to read the Technical Reference Document.

The bottom line is that even if we can show that the risk of illness is insignificant, we have to consider that (especially in low-flow areas) birds can elevate coliform levels to a point where states are forced to close harvest areas. According to the Food Code, guano on food is unacceptable and is generally a "bad look" for the industry. Deterrents are tricky, and birds will acclimate to them more quickly than you'd think. We continue to work on better ways to deter birds, while avoiding protected resources concerns and worker safety issues. The effect of birds on shellfish sanitation is vexing on many levels.

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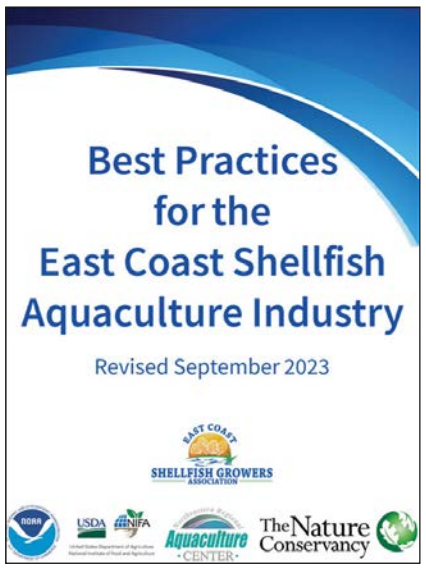
Best Practices and Farm Plans

Way back in 2008 when ECSGA members voted on priorities, developing Best Practices rose to the top! With funding from the Northeast Regional Aquaculture Center and NOAA we went to work holding workshops and conducting interviews, and in 2010 we published a beautiful manual.



We had interviewed hundreds of opponents to see why they hated aquaculture and tried to find ways to address their concerns.

In 2022, we decided we needed to update the manual to address concerns raised by floating gear, which was gaining in popularity because it reduces mortality and facilitates farm management. But it also ushered in a whole new set of concerns that needed to be covered in the manual.

With funding from The Nature Conservancy we held a series of workshops to gather input, and now we have a fully revised version. The new manual is still available for free on our website, but it has been greatly improved. An online form allows farmers to quickly and easily develop a customized, unique farm plan based on the manual. The form outputs a Word document that can easily be turned into a marketing brochure, permitting template, website content, or even a training tool for new employees.

A large part of the manual covers how to be a good neighbor, which goes a long way to building social license and acceptance by the community. When growers build social license the industry can expand; if growers are bad neighbors, they could be in for a fight any time they want to expand or get a new lease.

I'm surprised something that was such a priority for members and has so much utility is sitting on the shelf and has been used by so few members. To date, only a couple of dozen growers have created customized farm plans. I guess most growers are like me and think they already know everything. I personally guarantee that if you go through this excercise you will learn something new and helpful—or your money back!

Aquaculture America 2025
New Orleans

Ashley Roulston and Shawn Glover, co-founders of Industrial Plankton, Inc. The company has supported the ECSGA for five years and is a global leader in technology for high-density algae production for shellfish hatcheries. Many of the glowing bioreactors have been given nicknames by their owners, such as "R2-D2" and "Weird Al Plankovic." In a nod to the homage, Weird Al tweeted, "It's a lifelong dream come true–I FINALLY have a bioreactor named after me."

Karla Ruegemer (left) and Karen Slater of Industrial Netting. The Minnesota-based company sells many types of non-toxic plastic netting, and their line of aquaculture products covers predator, cage, and clam netting, as well as standpipe netting.

Erik Schlagenhauf of Seapa (left) and Ewan McAsh of Oceanfarmr. Seapa sells an extensive line of shellfish basket systems and accessories. Oceanfarmr now offers innovative farm financing in addition to its farm management software.

Tim Reed and Lyn Reed of Reed Mariculture. The company's expansive line of shellfish diets come refrigerated or frozen, and provide microalgae for all life stages of bivalves and other filter feeders. Their website is chock full of detailed info on the products and their applications, as well as downloadable articles on how to use their products. Reed has been specializing in premium microalgae, zooplankton and weaning feeds for 30 years.

How Will Tariffs Affect Our Industry?

by Robert Rheault,
ECSGA Executive Director

Since President Trump's inauguration, there has been quite a bit of talk about tariffs, and the ECSGA board has engaged in a series of discussions on whether to support tariffs or not. Many board members are in favor of free trade and oppose tariffs on principle because of increased costs to consumers and the potential for retaliatory tariffs and trade wars. Nevertheless, after I shared some of the production, import, and price data that was collected in the process of researching the oyster market study I wrote about on Page 1, the board reached consensus that we should send a letter to the Trump administration in support of tariffs on imports of shellfish. On March 4, 2025, we sent a letter[1] to Dr. Julie Callahan, Assistant U.S. Trade Representative for Agricultural Affairs and Commodity Policy. The letter reads, in part:

"Structural and economic forces place U.S. farmers at a distinct disadvantage to our trade competitors in several countries. Several of our competitors enjoy substantial government subsidies and reduced regulatory costs. They have much lower regulatory costs and can establish extremely large farms, allowing them to take advantage of superior economies of scale. The relative strength of the U.S. dollar means that shellfish are coming into our markets at a significant discount.

"The U.S. is importing $60 million worth of oysters from Canada and another $15 million of oysters from Mexico. Canada also sends us $23 million in clams and $32 million in mussels, while New Zealand ships $58 million in mussels. Our members tell us that import statistics for clams coming in from China and Vietnam are not being accurately captured, but are significant and harming our ability to compete in our domestic markets. Many of our trading partners have also indicated intentions to increase shipments to our shores significantly. Our ability to increase production is impaired by imports that continue to grow and take market share away from domestic producers."

The volume of imports is pretty eye-popping (See graph on Page 4). In 2023 the import value of fresh oysters from Mexico and Canada plus the value of frozen oysters that came in from South Korea added up to about 80% of the value of the oysters grown on East Coast farms.

ALEXIS HALL/ U.S. CUSTOMS AND BORDER PROTECTION

The ECSGA board of directors sent a letter to the Assistant U.S. Trade Representative for Agricultural Affairs in support of tariffs on shellfish imports. In 2023 the import value of fresh oysters from Mexico and Canada, plus frozen oysters from South Korea totalled about 80% of the value of the oysters grown on East Coast farms.

The response of ECSGA members to our tariff position has been mixed. Although many cheered the letter, one astute member stated that, "The reality is simple: When oyster prices rise too high, restaurants—our primary customers—are forced to remove them from their menus entirely. Consumers and restaurant operators have a price threshold, and once exceeded, demand doesn't shift; it collapses. We are already seeing this effect in some markets, and it will only worsen if the tariffs remain in place. We are not advocating for lower prices—every oyster producer welcomes fair compensation for their product. However, there's a tipping point. If prices exceed that threshold, oysters will disappear from "buck-a-shuck" menus, and seasonal restaurants, which rely on high-margin items during their short operating windows, will struggle.

"Furthermore, the U.S. oyster industry does not have nearly enough supply to replace Canadian imports. Canada plays a critical role in maintaining a consistent, high-quality supply, particularly for restaurants that depend on year-round inventory. I was recently told that Canada exports 140 million oysters to the U.S. annually. Given our limited access to new growing areas, we have no realistic way to fill this gap."

I think the argument is complicated. According to a recent article in Aquaculture North America[2], "'Our seafood trade deficit in the U.S. is huge,' says aquaculture economist, Carole Engle. 'Our aquaculture farmers in the U.S. are competing in a large seafood market, but it's dominated by imports, and they're at a price disadvantage generally.'" Engle believes that U.S. tariffs could make

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Seafood Expo/Seafood Processing North America 2025 in Boston

Chip Terry, Xavier Leroy, and Kam Kim (L to R) of Bluetrace in Castine, Maine. The company offers products for inventory management and control; sales, purchasing and pricing; shipping and receiving; printing and labeling; compliance and traceability; and accounting.

Travis Croxton, Jon Quigley, and Cody Wright (L to R) of Rappahannock Oyster Co. in Topping, Virginia. In addition to selling four brands of oysters grown in the Chesapeake, the company owns four restaurants, located in Virginia, South Carolina, and California.

Got a Regulatory Beef?

The ISSC will be meeting in October 2025 to debate proposals for changes to the National Shellfish Sanitation Program Model Ordinance. If there's a regulation costing you time or money and you think it's not protecting public health, there's a chance it can be fixed or modified.

Contact Bob Rheault, (bob@ecsga.org) well before the end of May, and he will help you craft a proposal before the submission deadline.

The Economies of Scale

by Robert Rheault,
ECSGA Executive Director

Another study on the economics of oyster farming[1] was just published, confirming earlier research showing that farm size has a strong influence on profitability. Lead author Dan Petrolia, an agricultural economist at Mississippi State University, looked at the economics of off-bottom oyster farming at six production levels, ranging from 200-4800 bags. (Honestly, these are all pretty small farms.) Looking at the first five years of operation, and accounting for startup costs and periodic storm events, he was able to model profitability and break-even costs at various stocking densities, mortality rates, and prices.

GORDON CAMPBELL/ALTITUDE GALLERY

Clam nets and OysterGro™ cages off Cherrystone Aqua Farm's hatchery facility in Cherriton, on Virginia's Eastern Shore. Cherrystone is one of the larger operations on the East Coast.

Spoiler alert: Petrolia found that it is generally necessary to plant more than 720,000 oysters a year to realize an annual profit. This confirms earlier studies by Carole Engel et al. (2021)[2] and Matt Parker (2020)[3]. Petrolia found that at the lowest production scenario, the break-even price was $2.57 an oyster. Only at the largest farm modeled did he generate a realistic break-even price of $0.52.

Parker looked at water-column growers in Maryland, finding that over a 10-year period firms reach a positive net present value (the difference between the present value of cash inflows and the present value of cash outflows over a period of time) at production levels of 2 million (or more) oysters a year. Engle found that production levels above 600,000 oysters a year could be profitable, but only if depreciation and opportunity cost of capital were ignored.

We can quibble about the assumptions and cost inputs of these studies, but you cannot deny the trend that they all identified: larger farms have economies of scale that small farms simply do not. This is not a popular message in most circles. Many revere the image of the independent, small, mom-and-pop farm. I know I will take some heat for saying this, but fundamentally, if you are not making money, is your business really economically sustainable?

I saw this in my own farm in Rhode Island. After a decade of struggling and reinvesting profits to scale up, I finally saw the bottom line turn black once sales topped 600,000 oysters. Unfortunately, that was the year I lost the entire crop to an unidentified bacterial pathogen, leading to two years without a paycheck, but that's another story.

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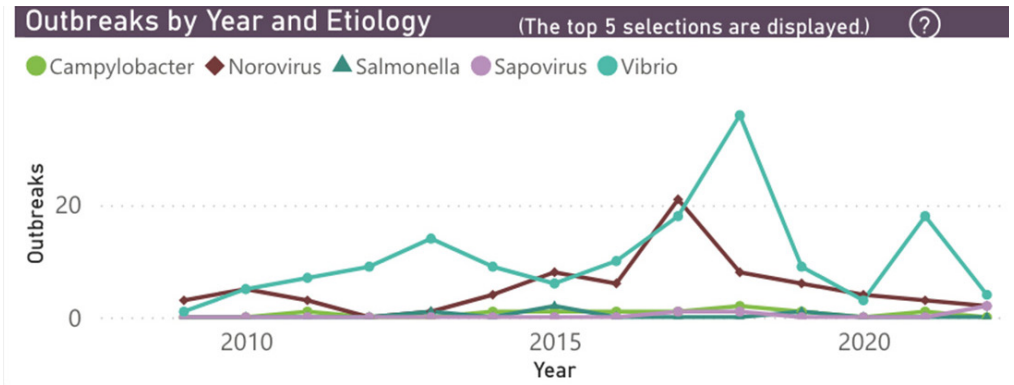

The CDC reported 10 *Campylobacter* illness outbreaks related to oyster consumption in the 14-year period from 2009 to 2023, with 63 separate illnesses and seven hospitalizations. This is orders of magnitude below what we see for *Vibrios* or norovirus. We know from several sources that only about 5-10% of wild birds are known to carry *Campylobacter* (pictured below), and fewer than 1% of *Campylobacter* serotypes are harmful to humans. This means that fewer than one in 1,000 sea birds carries a human pathogen.

Source: www.cdc.gov/ncezid/dfwed/BEAM-dashboard.html
(NORS View tab with filters applied)

PATHOGEN	OUTBREAKS 2009-2023	OYSTER ILLNESSES
Campylobacter	10	63
Vibrio	149	781
Norovirus	87	1502

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Tariffs

U.S. aquaculture products more competitive in a market dominated by lower-priced imports."

Others believe that tariffs are counterproductive and will damage markets and result in a trade war that will increase prices on other items we use. The reality is that tariffs and threats of tariffs have been on and off for months, and our letter probably will have little impact one way or the other. But the uncertainty and the potential for a global trade war have been unsettling to economists and stock markets, and I think everyone would be happier if we had some stability and predictability in our international trade policy.

Notes

1. ecsga.org/wp-content/uploads/2025/03/TariffSupportLetter-3-4-25.pdf

2. www.aquaculturenorthamerica.com/how-will-u-s-tariffs-affect-north-american-seafood-trade

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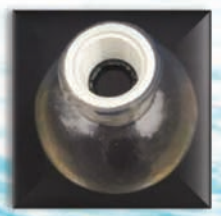
Oyster Markets

ers adjust to the new normal of inflated restaurant dining prices.

I suggest that the industry needs to invest in marketing. If we are going to expand production without driving down prices, we will need to grow demand. Growers have great stories to tell. Our interviews with oyster professionals revealed a broad consensus that oysters have traits that should attract a wide range of customers. High scores for sustainability and nutritional value, and a reputation for being a great food for celebrating should help us expand markets.

Getting that message out to new consumers, especially young diners and those who may never have experienced a fresh, raw oyster's magnificent flavor, is a challenge we must face head-on. The days of being able to sell all we can grow without having to spend money on marketing are probably behind us. How we organize thousands of small growers and dealers into such an effort is a question I will try to answer in the years ahead. I hope you have ideas and solutions to share.



NOAA Talking Points

by Robert Rheault,
ECSGA Executive Director

We have all experienced the firehose of news coming out of DC over the past three months. It's been hard to separate the facts from the noise and to focus on what we should do going forward to protect our industry. Thousands of probationary government employees were fired, and some were reinstated following lawsuits, but the reprieve may be only temporary. Hundreds who were in the process of being hired now find themselves back in the job market following an across-the-board hiring freeze. At the same time, all federal agencies have been instructed to prepare Reductions in Force (RIF) and propose budget cuts.

At this point, we have limited visibility of what has happened and what will happen, but it is clear that the process has been chaotic and disruptive. Federal workers are not allowed to travel to meetings, and employees of the Food and Drug Administration (FDA), Centers for Disease Control, and the Environmental Protection Agency are not supposed to talk to the public on matters of policy. Many federal scientists are unclear about budgets, contracts, and grant funding. This state of affairs has been crippling to the function of the Interstate Shellfish Sanitation Conference, so we collaborated with the Pacific Coast Shellfish Growers Association on a letter requesting that FDA officials be allowed to continue participating on committees and boards.

We have had some success after pleading with agencies for the retention of key individuals, such as geneticists working on our oyster-breeding efforts on both the East and West Coasts. There is a compelling argument to be made that President Trump is trying to reduce the trade deficit, and we are ready to help with that.

Back in his first term, Trump signed an executive order pushing for the expansion of aquaculture. The U.S. imports 80% of its seafood, adding $24 billion to the trade deficit. While sustainably harvesting more wild fish will be difficult, we can certainly grow more domestic seafood and be part of the solution.

We hope to get some traction in making the argument that if the government wants to increase domestic seafood production, it should try to limit cuts to the programs our industry relies on. These include: NOAA's research, permitting, Seafood Inspection Service, Sea Grant, and the Marine Aquaculture Research Program; and the U.S. Department of Agriculture's crop insurance programs, Animal and Plant Health Inspection Service, and Agricultural Research Service (which funds our oyster breeding program).

These changes to the federal bureaucracy could be an opportunity to identify and fix or eliminate regulatory obstacles to growth. While we don't want to risk increasing illness associated with shellfish, we should be exposing regulatory roadblocks to growth. A new paper (doi.org/10.1111/jwas.70005) by Carole Engle and others describes the regulatory cost burden to aquaculture producers, totaling hundreds of millions of dollars and representing an average of 9-30% of farms' total annual costs.

I have been fielding many press inquiries, and if you get trapped by a reporter it would be good to have some of these key points ready or better yet, ask them to talk to me. There are intelligent ways to reduce staff and increase efficiency, but across-the-board firings generate chaos and waste. We can grow more fish and be part of the solution to our trade deficit, but only if we don't cut the government programs that farmers rely on. We can all think of regulations that need to be fixed, but changing the laws behind them is going to be a long and difficult process. It will only happen if the agency staff are allowed to talk to us so we can develop workable solutions.

—*Continued from page 1*

From the President

expand into markets that don't eat oysters or that are unaware of our products. Ideas like co-ops and other grass-roots efforts can help smaller firms match the impact of professional services while minimizing the costs.

All that being said, I think larger companies will still help lead the industry. Firms that need to sell millions of shellfish will invest to help ensure their products have markets, which will provide a path for the rest of the industry to follow. The path forward is unclear, but by focusing on our story I believe we will be able to continue to grow this industry…shellfish lovers don't just live on the coast, let's convince them that they're going to love our products.

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Economies of Scale

Small-scale growers can often cut costs if they already own a boat; or they might cut corners by skimping on insurance or buying used gear. Some can fetch a higher price by selling direct to consumers or by doing a fantastic job of marketing. Many can cut costs by working with family members or by being inventive with eco-tourism or side hustles. The input costs that each of these studies used are going to vary regionally, and you can do the math yourself by plugging your numbers into Matt Parker's cost calculator[4]. I am not saying that small farms can never be profitable, just that they have to work a little harder than the larger ones.

I do worry that the marginally profitable firms may be cutting corners. Maybe they can't afford the proper anchors or the heavy gear that can hold up in a storm, so their gear eventually winds up on the beach. Maybe they are skimping on ice or skirting regulations to save a few bucks. If they end up getting someone sick or giving the industry a black eye, then we all suffer.

Many growers think they are profitable because they don't consider depreciation or their own time (known as opportunity cost). Some pay workers under the table or as 1099 subcontractors and forego health insurance or a retirement package. Some can rely on a spouse's health care plan or have alternate sources of income. Many growers make this lifestyle choice so they can work on the water, enjoying independence and fresh air. But if you are not paying yourself a living wage or saving for retirement, then you might be considered a "hobby farmer."

This independence often comes at a price. Many small growers are barely scraping along and can't afford to have employees or the labor-saving equipment that might allow them to work on the farm into their later years. If you can't pay for proper insurance or the tumbler or crane, or if you can't afford to take time off (or to become injured) or to join your growers association, then maybe it's time to evaluate your situation. How could you

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Economies of Scale

grow your company to achieve the economies of scale that would allow you to profit?

Scaling up is difficult. Managing employees is one of the hardest parts of running a small business. But trying to do it all yourself—growing, marketing, doing the books, and chasing the checks from the restaurants—will wear you out pretty fast. Once local markets are saturated and you start to bump up against competing growers, downward price pressure will usually force you to find other markets. Selling to a wholesaler can remove the hassles of marketing, delivering, and chasing checks, but you invariably have to settle for a lower price.

As our marketing study (see Page 1) shows, farming oysters is getting harder. Demand is slowing, prices are flat at best, and input costs have skyrocketed. Cage wire is up 50% since COVID, and labor and shipping costs have reached new highs. It is getting harder for small growers to survive, and the pressure to consolidate is increasing. Again, this is not a popular message but one that resource managers need to hear. **We should dispense with the fantasy that a 2-acre shellfish farm is financially sustainable.**

Some growers have found that they can cut costs by teaming up. I formed a small marketing cooperative in Rhode Island to remove some oysters from the local market in an effort to keep prices up. It is not easy, and most co-ops fail. Still, if several growers can work together under one dealer permit, with one packing facility, one reefer, one reefer truck, and one marketing person, then it is possible to trim distribution costs and keep prices up. It is not for the faint of heart, and getting fiercely independent competing growers to work together is challenging at best, but it can sometimes work out.

Notes

1. Daniel R. Petrolia and Rex H. Caffey (2024) Economic analysis of off-bottom oyster culture, Aquaculture Economics & Management, 28:4, 704-732. doi.org/10.1080/13657305.2024.2365203

2. Engle, C., van Senten, J., Parker, M., Webster, D., & Clark, C. (2021). Economic tradeoffs and risk between traditional bottom and container culture of oysters on Maryland farms. Aquaculture Economics & Management, 25(4), 472–503. doi.org/10.1080/13657305.2021.1938295

3. Parker, M., Lipton, D., & Harrell, R. M. (2020). Impact financing and aquaculture: Maryland oyster aquaculture profitability. Journal of the World Aquaculture Society, 51(4), 874–895. doi.org/10.1111/jwas.12702

4. extension.umd.edu/sites/extension.umd.edu/files/2021-03/Contained%20Culture%20Cost%20Analysis%20Full.pdf

ECSGA Dues Categories

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 1 million	$1,000
Grower	$1 million to $3 million	$2,000
Grower	over $3 million	$3,000
Shellfish Dealers and Equipment Suppliers		$250
Restaurant Ally		$100
Non-voting Associate		$50

Because ECSGA is a 501(c)(6) non-profit trade organization, a portion of your membership dues may be tax deductible as a business expense; please contact us for details.

You can pay online using PayPal or your credit card on our website ECSGA.org or mail this form with your check to:

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* Rest assured, your sales information will be closely guarded and will not be shared!