From the Mouth of the Bay

The Case for Strong Economic Data

As executive director of the ECSGA it is my job to field questions about our industry and to advocate for our community to regulators and researchers. I try to keep the regulators from putting us out of business, while at the same time offering guidance to researchers to keep them focused on high-priority issues. I field dozens of calls from the media as I try to defuse scandals and lead reporters to accurate sources of information.

I am often asked, “What is the economic contribution of your industry to the national or local economy? And how many jobs do you provide?” When arguing that a proposed regulation will impact a thousand small farms from Maine to Florida, it helps if I can state that our industry harvests $110 million worth of shellfish while providing several thousand jobs in rural coastal communities. When pressing the point that the National Marine Fisheries Service (NMFS) should devote more than 0.6 percent of its budget to aquaculture research, it helps to have data showing that the U.S. imports 86 percent of its seafood and that 56 percent of those imports are cultured overseas.

“My plea to you as producers is simple: when someone asks you to provide economic information about your farm, please cooperate.”

Keeping track of our rapidly growing industry is a constant challenge. In 2005 the USDA published its last Aquaculture Census – after that all funding for this important resource was cut off. I try my best to keep track of each state’s production numbers, while the Pacific Coast Shellfish Growers Association (PCSGA) and the Gulf Oyster Industry Council (GOIC) try to keep track of statistics on their industries. Some states do an excellent job compiling annual production estimates, job numbers, and lease acreage (Va., R.I., Mass.), but then others don’t even know how many acres are leased, or don’t separate landings of cultured shellfish from wild.

In the absence of federal statistics describing our industry, many groups around the country are now trying to conduct independent assessments. The Pacific Shellfish Institute has commissioned a study to determine the economic value of the West Coast industry and to estimate the “economic multiplier” – the impact of these sales revenues on the local community. Some examples of this multiplier effect are dollars spent in communities on rent or groceries, as well as money reinvested in repairs or purchases of boats and culture gear.

My plea to you as producers is simple: when someone asks you to provide economic information about your farm, please cooperate. I understand we are all busy and sick of — Continued on page 2
From the President

Minimizing *Vibrio* Post-Harvest Growth

As another summer season approaches, our ECSGA harvesters must focus their attention on the potential for the presence of *Vibrio* in their shellstock. There is nothing we can do to prevent these naturally occurring pathogens from entering our clams and oysters, but we can do many things to keep *Vibrio* from multiplying after we harvest our product.

In my state (Virginia), the Health Department's Division of Shellfish Sanitation has presented a plan to minimize growth of *Vibrio* post-harvest, while not making it too burdensome for harvesters to comply. The plan was approved by the Marine Resources Commission and was put into effect May 31, 2012. The warm-water regulations are in effect from May through September or October each year.

They include shading of product from harvest to off-loading; use of a refrigerated truck or ice for transporting harvested product for more than one hour; curfews for harvest ranging from one hour before sunrise to 10:00 am, 11:00 am or 12:00 pm, depending on the month; exceptions to the curfew if operating a permitted GPS tracking device allowing total trip times of two to five hours depending on the month; and exceptions for harvesters with approved refrigeration or icing provisions on board.

In addition, a new restricted-use Green Tag is available for oysters designated for shucking only. There is also a Cage Aquaculture Husbandry Permit to allow handling (but not harvesting) of oysters outside the curfew.

While this may seem like a lot of new regulation, it beats the alternatives of no warm-water harvesting or of mandatory Post-Harvest Processing (PHP) of all oysters. I believe that we should be thinking even beyond the regulations as to how we can keep our product safe. For example, if you are tending your cage-cultured oysters in hot weather for several hours, there is the potential for any *Vibrio* present to multiply exponentially. If some of those oysters are harvested for consumption within the next several days, they could still harbor very high levels of *Vibrio*.

This is not something that regulations can enforce, but it is up to you to establish practices to keep compromised shellfish out of the market. For those who might be tempted to do things to get around the regulations, remember that this is all in the interest of public health. Any illnesses anywhere take their toll on the entire shellfish industry.

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Mouth of the Bay

We Need Your Help!

Please lend a hand and volunteer to help at the Milford Oyster Festival Friday and Saturday Aug. 17 – 18

The income provides vital funds for ECSGA’s operating budget.

Contact Kathy Rhodes, (203) 623-2819 or ecsga@optonline.net

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Legislative Update

The Fisheries Investment and Regulatory Relief Act of 2012 (S.2184 and H.R.4208)

What the FIRRA?
If passed, FIRRA would provide dedicated funding to support research, monitoring and management programs critical to sustaining ocean fish resources and fishing communities. The bill would restore the intent of the 1954 Saltonstall-Kennedy Act and revitalize the popular S-K Grant program. S-K derives income from duties on imported fish products, and with increasing imports this revenue has swollen to over $360 million a year. Where these funds go is not exactly clear, but they are funneled through USDA with 30 percent getting transferred to NOAA in what is called an “ORF offset.”

Historically, S-K funds have supported a number of popular grant programs such as cooperative fisheries research, by-catch reduction, habitat and protected species research, stock assessments and aquaculture. However, over the past three decades, 88 percent of these funds have been diverted into NOAA’s general operating account. Increasingly, Congressional directives have diverted much of this money to specific projects, such as Alaskan Seafood Marketing, and the competitive grant program has been zeroed out in five of the last ten years.

The FIRRA bill would direct 70 percent of the ORF funds annually (an estimated $85 million in FY 2013) to fisheries management programs, ensuring that funds target important local needs. FIRRA would cap the amount of these dollars that NOAA could use for administrative purposes at 10 percent.

Shellfish Equity Act of 2011 (S.1607)
Introduced by Sen. Richard Blumenthal, D-Conn., the act would expand coverage for USDA’s Noninsured Disaster Assistance Program (NAP) to include cultured shellfish not grown in cages or under netting. Open-planted shellfish are currently not covered under NAP. We are hopeful that this language will be adopted in the new version of the Farm Bill, one of a handful of bills that may actually pass this year.

Shellfish Marketing Assistance Fairness Act (H.R.1176)
Sponsored by Rep. Joe Courtney, D-Conn., this act would add cultured shellfish to the definition of Specialty Crops under the farm bill, making growers eligible to compete for state block-grants for marketing and research. We devoted a lot of energy to this, but were only able to get a few more co-signers (now 15). The existing Specialty Crop producers (wine grapes, berries, nursery products, etc.) have been quite effective in protecting this relatively small pot of funds.

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The 2011 Virginia Shellfish Aquaculture Situation and Outlook Report is now available, and the data show another productive year for Virginia’s shellfish culture industry. The report, produced annually since 2006 by Virginia Sea Grant and Virginia Institute of Marine Science, surveys growers to provide annual assessments of economic trends in the industry.

The recent story out of Virginia was the 2010 boom in single-oyster production, a nearly three-fold increase in the span of one year. Single oyster plantings were expected to further increase in 2011, but that was not the case. Growers reported a 14-percent decrease in planting, down to 65.5 million – likely the result of emerging interest in the extensive culture of spat-on-shell, which is less labor-intensive. Time will tell how this trend evolves, but for now sales of single-market oysters continue to rise, with average prices holding steady, at an estimated farm-gate value of $6.7 million.

Extensive oyster culture or large-scale, spat-on-shell culture is the area with the most potential for growth in Virginia. This will depend on consistent hatchery production of eyed larvae, which was problematic in 2011 due to water quality complications. This reinforces the ongoing need for improved water quality, not just in Virginia but everywhere shellfish are cultured.

On a positive note, the sales projections for eyed larvae in 2012 indicate a jump back up to nearly two billion.

Meanwhile, hard-clam culture in Virginia remains strong amidst some contractions in the number of hard clams planted in 2008 through 2010. Growers reported a 22 percent increase in clams planted in 2011 – totaling 450 million. Sales of hard clams were also reported to be 12 percent higher in 2011, leading to an estimated farm-gate value of $26 million dollars.

The authors would like to thank the Virginia shellfish industry for their continued cooperation with the survey.
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www.northeastaquaculture.org
Milford Oyster Festival August 18, 2012
Fun for the Whole Family

Preparations are well under way for the East Coast Shellfish Growers Association’s participation in the 38th annual Milford (Conn.) Oyster Festival slated for Aug. 18, 2012. Once again, ECSGA will be a major presence at the festival, serving raw and cooked shellfish at two locations on Saturday, and in what has become a tradition in recent years, providing a raw bar and chowder at the pre-festival “Oyster Eve” on Friday evening Aug. 17.

Admission to the festival, which is held rain or shine, is free, and some 50,000 participants are expected. Because the ECSGA’s participation is instrumental in providing funds for our operating budget, we rely on our members and other volunteer supporters to make it happen. Please consider helping out. It’s a great way to show your support for an organization that does so much for our industry, to meet other growers and to have a great time doing something worthwhile.

In addition to the extensive food court, the festival offers musical entertainment (this year’s headlining band is Kansas!) a classic car hop, a children’s area, schooner rides, crafts for sale and many other attractions. So come help out and bring along the whole family to enjoy the festival.

The ECSGA booth is located in the food-court area, and features a wide variety of oysters provided by our members. The festival website promises that, “many of the growers will be at the festival with their oysters, so you can ask them how they do it and why their oysters are the best.” Growers, this is a golden opportunity to educate the public about just how valuable our industry is. We need you there!

Again this year we will host the now-famous oyster-shucking contest, where some of the world’s fastest shuckers help out at the booth for the chance to compete for a cash prize. There will also be an oyster-eating competition in conjunction with our booth, where some of Milford’s famous (and no-so-famous) try to down a dozen oysters in record time.

If you can come help out, please contact Kathy Rhodes at ecsga@optonline.net or (203) 623-2819.

--- Photo by Marina Huber
Oyster shuckers wow the crowd at the 2011 Milford Oyster Festival.

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For several years I have been pushing the case that shellfish are good for the environment. They provide ecosystem services such as improving water clarity, removing excess nitrogen, providing habitat for juvenile fish and critters, and stabilizing bottom. I made this argument at lease hearings, trying to deflect the NIMBYs who were arguing that shellfish aquaculture was somehow environmentally damaging. For the most part, we can claim that we’ve won that argument, since we now have scientific papers documenting those ecosystem services. However, in order to get traction with politicians and regulators we need to attach a dollar value to those services.

This past winter at the annual meeting of the National Shellfisheries Association, a group of like-minded folks organized a session on estimating the economic value of the ecosystem services provided by shellfish culture. As the unofficial keeper of East Coast production statistics, I was nominated to present our data.

Keep in mind that some states have better quality data than others, making some of these numbers little better than guesses. In summary: the 14 East Coast States harvest about $119 million worth of cultured shellfish; 38 percent oysters, 61 percent clams and 1 percent mussels. We have over 1,000 farms providing about 1,200 full-time jobs and an equal number of part-time or seasonal jobs. Coast-wide production is growing at about 10 percent a year, with most of that increase being oysters out of Virginia and New England.

Some interesting numbers came out of this analysis. For states where we have good data on jobs and the number of acres being farmed, I calculate that intensive oyster culture yields around $15,000 per acre in farm-gate value and generates roughly one job for every two acres in production. (I don’t have enough data to make similar estimates for extensive bottom-planted oysters or netted clams.) If we use an economic multiplier of 2.5 then our annual impact on local rural communities would be about $300 million.

**Ecosystem services valuation**

I am no economist, but there is a flood of interest right now in trying to place a dollar value on various things such as restored reefs or eelgrass beds. We can use some of these values to make similar claims about the ecosystem services we provide.

For instance, we know that nitrogen is removed from the water with every animal harvested. Each oyster contains 0.2 – 0.5 grams of nitrogen in tissue and shell protein; for clams I estimate around 0.3 grams of nitrogen (Newell 2004, Grizzle 2011, Stephenson and Shabman 2011). So the harvest of 500 million clams and 100 million oysters removes about 200 tons of nitrogen. Based on the cost of preventing this much nitrogen from reaching the watershed, various authors have suggested dollar values ranging from $13 per kg to $330 per kg. Therefore, the total value of the nitrogen-removal services provided by shellfish aquaculture ranges from $2.6 million to $67 million (Piehler and Smythe 2011, Stephenson et al. 2010). Including nitrogen removed via enhanced bacterial denitrification could double this value.

**Habitat improvement**

When compared to cultured oyster beds, restored oyster beds have similar vertical structure and attract a similar assemblage of diverse critters. Is it possible to put a value on the juvenile fish and crabs that survive in an acre of habitat because they had places to hide, as opposed to barren bottom? One way to do this is to look at society’s “willingness to pay.” We know we have spent millions restoring oyster reefs up and down the coast at a cost of $7,500 to well over $100,000 per acre. I estimate our industry enhances about 20,000 acres of oyster bottom, so using even the low-end estimate represents a habitat-improvement value of $150 million.

We could also try to put numbers on things like turbidity reduction, shoreline protection and larval release. I don’t pretend to be an economist, but at some point it would be enlightening to have one do the analysis. The point here is that the value of the ecosystem services our industry provides for free is right up there with the value of the landings, which I think is pretty cool. **The value of the jobs we provide in our local communities and the ripple-effect of the money our firms spend to maintain and build their businesses are all part of our contribution to society.** Having numbers like these only strengthens the case for valuing shellfish aquaculture. It’s clear that shellfish growers have a lot to be proud of.
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Triploid Eastern oysters (*Crassostrea virginica*) that possess an extra set of chromosomes have previously been shown in other states to have superior growth performance compared to fertile, diploid oysters with two sets of chromosomes in their adult cells. Indeed, triploid oysters now support the majority of productivity in Virginia, where the industry has significantly recovered following the dramatic decline of wild populations over the past century. The growth advantage of triploids is conferred through their sterility and consequent greater investment of energy in tissue growth rather than in reproduction. This higher growth rate, in addition to a year-round marketable product, is of particular value and interest to the shellfish aquaculture industry.

Two methods exist for producing triploid oysters: a less-favored chemical method; and a more effective and advantageous genetic method, producing “naturally mated” triploids. However, the genetic production of triploid *C. virginica* is patented, proprietary, and dependent upon tetraploid parents that are currently not maintained with South Carolina, thereby presenting a potential barrier to their production and application by the industry in this state.

In 2010, my colleagues at the South Carolina Department of Natural Resources and I obtained funding from the South Carolina Sea Grant Consortium to investigate the potential growth advantages of triploid oysters over wild diploid oysters grown at a number of industry lease sites throughout coastal South Carolina. It is hoped that the use of triploids will represent a means of advancing the South Carolina shellfish aquaculture industry, specifically in relation to the production of single oysters for the more lucrative half-shell market.

This research collaboration between the South Carolina Department of Natural Resources, the Virginia Institute of Marine Science, and 4Cs Breeding Technologies, Inc. facilitated the production of naturally mated triploid *C. virginica* in Virginia (April 2011) and subsequent nursery and open water field-grow-out at industry sites across the South Carolina coast from Murrells Inlet to the May River. Beginning in June 2011, at each of the six industry sites involved in this study, oysters of three distinct lines (two diploid lines and the triploid line) were grown side-by-side until at least one of the lines reached a marketable size, at which time all three lines were sampled for a final time. Oysters at an individual grow-out site were first marketable in December 2011, and all sites had harvested their oysters by the end of April 2012.

While extensive analyses of growth rates both in terms of oyster shell height and tissue weight are still ongoing, analyses conducted thus far have revealed that, over equivalent time periods, the triploid oysters reached a larger size (shell height) than at least one of the two diploid lines at all sites investigated, but that the patterns of differences between the three lines varied between sites, highlighting the importance of site effects and careful site selection for oyster grow-out. Anecdotal observations during the course of the study suggested that the triploid oysters were more “cupped” than the diploid lines, and additional data collection is ongoing to collect both shell-depth data and tissue-weight data that may reveal further growth advantages of the triploid line over the diploid lines. This study has been extremely valuable in providing several commercial shellfish growers with their first opportunity to grow and observe triploid oysters on their leases, and also to assist the industry in making decisions regarding the merits of future investment in triploid shellfish aquaculture.
In Memory of Ronald Buck
February 9, 1954 – March 24, 2012

Ron was a man of many talents, like a fine-cut diamond with multiple facets, who did many things and did them well. Among those were graphic design, photography, poetry, acting, carpentry, selling aquaculture gear, making music and – one of his favorites – oyster farming.

I met Ron when he came out here from Pennsylvania and he showed interest in joining a local dart league that a bunch of us were in. Ron would say things like, “Boy, I wish I could throw darts like you guys.” Then in a month’s time, he was kicking our butts! And that’s pretty much how Ron’s life was: once he was interested in something he would master it.

Later he found out that I had a shellfish grant and asked to see how it was done. Two years later he had his own grant and I was asking him the same question. He set up a deal with some Aussie guys and next thing he was a regional salesman for oyster grow-out bags for the entire East Coast. Slowly through the years I saw all his other talents come out and after a while I could only say to myself, “Is there anything this man can’t do?”

Ron was a gentle type of man with a good sense of humor and a heart of gold and if you needed anything he would be right there for you. The world and I will miss Ron Buck, but I’ve got to think that he is up there hammering out some new pearly gates because the ones there won’t be up to his standards.

Good bye, my friend,
Mike Ramsdell

“I have been called pretentious, a snob, and irresponsible by those who love me. I have swept floors, parked cars, built houses, designed logos, directed plays, acted parts, written books, farmed oysters. I have confessed and advised. But mostly I am just a little boy blowing smoke rings at god. Sometimes he’s amused and sometimes he is not.”
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Internet vendor Marco-PromotionalProducts.com sells lunch totes for as low as $1.29 each (for 3,000). A Google search on “promotional lunch tote” will turn up plenty of other companies.

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