

PCSGA



PACIFIC COAST SHELLFISH GROWERS ASSOCIATION

LONG LINES

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PCSGA



PACIFIC COAST SHELLFISH GROWERS ASSOCIATION

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The PCSGA strives to ensure a healthy industry and environment for shellfish farming on the Pacific Coast.

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.....
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beckymabardy@pcsga.org.

What the Tide Brought In



"The first man gets the oyster,
the second man gets the shell."
-Andrew Carnegie

Notes from the Director

I'm not much of a reader, in fact for the past nearly two decades, the only books I really can admit to reading are ones about cooking (mainly desserts) and parenting, both of which have honestly helped me keep my kids alive. This is why I stunned myself when, not only was I compelled to purchase the book "*Tides: The Science and Spirit of the Ocean*", by Jonathan White, but when I returned from the Annual Shellfish Growers Conference and Tradeshow, I actually found myself engrossed in the book.

Jonathan White was the luncheon speaker at this year's conference and seemed to delight attendees with his vast understanding and downright appreciation of the tides. Jonathan traveled the world in order to experience the world's most remarkable tides and spent countless hours speaking to people, including shellfish growers, who live according to the tides. He shared with us the science, the folklore, the adaptation, and the importance of the tides. I have been lucky enough to visit a few of the places that Jonathan studied, but now feel I must go back armed with more knowledge and appreciation.

We at PCSGA consider tides before planning meetings and events. Yet, after reading this book, I realize I have only been paying attention to one tiny element and that there's so much more worthy of discovery. I had the opportunity to see Jonathan's words play out in real time during a recent autumn sail in Puget Sound with another person who, on my recommendation, also read *Tides*. The two of us were able to enthusiastically identify evidence of the slack tide by the flat water and watched for the tiny eddies that dimpled the water as the incoming water found its own way to overcome the outgoing water. Whereas previously, I would have likely overlooked the bulging, pulsing, and boiling of the Puget Sound's surface, now I look for these features and then consult my phone tide app to confirm my application of knowledge.

I'm certain there's a lesson here – perhaps it's never stop learning, or maybe it's seek to go beyond necessity and your world expands. Either way, I strongly encourage PCSGA members to experience *Tides*.

Be Well,

Margaret Pilaro Barrette

In Memory of Culinary Aficionado, Jon Rowley



Jon Rowley, a Northwest native, was a tenacious tastemaker — a champion of the Olympia oyster and early proponent of Copper River salmon. For decades, he helped make and shape Seattle's reputation as a food destination, while earning his own reputation as a culinary evangelist nationwide. Rowley died October 3rd of kidney failure at his home on Vashon Island, Washington surrounded by loved ones. He was 74.

Monthly Winners of Ecosystem Services Photo Contest!

Pearls from the Past-Treasurer

I was recently asked by our outgoing President, Kyle Lentz, to write a few words of wisdom for this column. Obviously asking me to share wisdom is not the best idea. What I am comfortable doing is sharing my observations of the industry and the Association.

Throughout my almost 39 years of being a grower and 35 years as a processor, many things have changed. Today's regulatory climate seems ever more daunting and challenging and it is become more difficult to figure out where and how one can operate resulting in a strong financial outcome.

One emerging issue that bears a close watch in 2018 is the Center for Food Safety's lawsuit against the U.S. Army Corps of Engineers, challenging the 2017 Nationwide Permit in Washington State. As we all know well, this permit provides programmatic coverage for qualifying shellfish farms up and down the West Coast, and across the country. After more than a decade of PCSGA growers' steadfast engagement, education, and participation in public process, we are finally starting to see this permit program run in an efficient and predictable way.

If the Center for Food Safety wins its lawsuit, PCSGA's members could lose the ability to use this general permit altogether. PCSGA's representation and assistance to its members on regulatory issues like this one is of great importance. To facilitate good stewardship of the tidelands and to ensure our industry continues to thrive, shellfish farmers need efficient, predictable, and workable permit processes. The Board has recently authorized PCSGA's intervention in this lawsuit. I supported this move because I think PCSGA needs to be able to provide the voice of shellfish farmers in this litigation, and to help the Court understand what is at stake for our industry. As outgoing PCSGA Treasurer, I know that participating in the lawsuit will require a strong financial commitment from PCSGA, which requires a robust membership and a willingness to pay dues. Even though this lawsuit is focused on Washington State, growers everywhere could be impacted.

I want to conclude by thanking all of you for the many good years as your treasurer. Also, a special thanks to the outgoing executive committee that has served the board with passion. Kyle, Svein, Miranda and Dave, it was an honor, and at times a joy, to work with you all. Good luck with your on-going challenges. Also, I want to thank Margaret, Connie, and Becky for doing an awesome job of running the office. Margaret is one of the best cat herders I have ever known. One last thanks to all the Board Members who not only run their own businesses, but take time away from family and pursuits of happiness to help keep our industry viable.

I look forward to continuing to serve the Association and its continued strength in serving this industry.

Nick Jambor

*Current: Manager of Ekone Oyster Co., Bay Center WA
Former: PCSGA Board and Executive Board Member (Treasurer for 10+ years)*

Cover Photo: Brady's Oyster Feed in Westport, WA (Sept. 9, 2017)

Brady's Oyster Feed is an annual celebration of oysters served every way you love them! Proceeds benefit clean water and scholarships.



JULY: Margaret Homerding of the Nisqually Indian Tribe shows how oysters provide valuable structure and habitat.



AUGUST: Duane Fagergren of Calm Cove Oyster Co. captures this mat of green macroalgae (*Enteromorpha sp.*). Underneath, lies this year's crop of yearling single Pacifics. The oysters consume phytoplankton, and excrete feces, pseudo feces, and ammonia in a mixture that serves to fertilize this luxurious crop of seaweed. The lush crop also provides habitat for crab (graceful crabs mostly) and fish (shiner perch, stag horn sculpin, and bay pipefish). The downside of this heavy growth is a mat that makes oysters grow slower, clams come to the surface of the beach and can't dig themselves back in, and likely oxygen debt as the algae naturally dies and decomposes.

Enter the Monthly Ecosystem Services Photo Contest

Send a photo and caption to PCSGA explaining how the image depicts shellfish providing an ecosystem service. A winner awarded monthly receives \$100 ... and bragging rights.

See contest rules and entry information at www.pcsga.org.

Options to Manage Risk for Shellfish Growers

Jo Lynne Seufer, USDA Risk Management Agency
Chris Bieker, USDA Farm Service Agency

The Pacific Northwest ranks high in the nation for value of aquaculture production. Despite its high value, aquaculture production carries high risks. The U.S. Department of Agriculture (USDA), through programs managed by the Risk Management Agency (RMA) and Farm Service Agency (FSA), can help farmers mitigate risks related to adverse weather events.

FSA's Noninsured Crop Disaster Assistance Program (NAP) pays producers of non-insurable crops when low yields, loss of inventory or prevented planting occur due to an eligible cause of loss. NAP provides basic coverage equivalent to the catastrophic level, which is based on the amount of loss that exceeds 50 percent of expected production at 55 percent of the average market price for the crop. The 2014 Farm Bill authorizes higher levels of coverage.

NAP offers protection for many aquaculture species raised by a commercial operator on private property in a controlled environment. Leases may be considered private property.

The NAP coverage year for aquaculture is Oct. 1 through Sept. 30. FSA requires an application by Aug. 31 prior to the coverage period. The NAP service fee is the lesser of \$250 per crop or \$750 per producer per administrative county, not to exceed \$1,875. Producers who elect higher levels of



Learn more about how to protect your farm at www.rma.usda.gov and www.fsa.usda.gov.

coverage must also pay a premium based on the coverage level selected. For more information, contact your local FSA office in Washington or Oregon.

RMA in the Northwest does not currently offer an individual policy for shellfish; however, coverage for aquaculture can be obtained through the Whole-Farm Revenue Protection (WFRP).

Shellfish growers who would like more information about the potential to utilize Whole-Farm Revenue Protection to meet risk management needs should contact a local crop insurance agent or Jo Lynne Seufer, Risk Management Specialist with RMA's Spokane Regional Office. Policy, fact sheets and additional information about WFRP be found at www.rma.usda.gov.

Contact Information:

jo.lynne.seufer@rma.usda.gov -- (509) 228-6335
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U.S. Army Corps of Engineers Tour Willapa Bay, WA

Eric Hall, Taylor Shellfish Farms
David Beugli, Willapa Grays Harbor Oyster Growers Assoc.

On Thursday, September 7th, 2017 shellfish growers representing Puget Sound, Willapa Bay and Tillamook Bay met at the Port of the Peninsula in Nahcotta Washington to host a Shellfish Farming 101 tour for the U.S. Army Corps of Engineers. The new Northwestern Division Commander, Major General Scott Spellmon, and the new Seattle District commander, Colonel Mark Gerald, were accompanied by several other staff members. The purpose of the tour was to demonstrate how shellfish are cultivated in the Pacific Northwest.



(Above) Shellfish growers introduce the U.S. Army Corps to Willapa Bay oyster farming and discuss issues related to the health of the bay.

More importantly, our visitors had an opportunity to experience firsthand the world of shellfish farming. After dispersing lifejackets and a brief safety talk, the group boarded one of Taylor Shellfish Company's oyster dredges and began slowly cruising through the early morning mist to a site where shellfish workers were hard at work harvesting oysters by hand and filling bushel baskets. Bill Taylor spoke on the history of oyster farming in the Northwest and the current state of the industry as the group cruised to the first site.

(Right) Kathleen Nisbet Moncy of Goose Point Oyster Co. illustrates to Army Corps personnel how oysters grown on longlines are sinking into substrate infested with burrowing shrimp.



On the tour, the growers brought many visual aids such as oyster larvae, cultch seed bags, clam seed, and finished products to demonstrate each growing technique as they cruised to each location. The tour included several stops throughout Willapa Bay that included visiting oyster ground that had recently been planted. The oyster beds were abundant with healthy populations of *Zostera marina*.

The group also toured a long line bed and witnessed firsthand the detrimental impacts of burrowing shrimp. The last stop included the group visiting a flip bag oyster farm, and nearby workers mechanically harvesting manila clams. In conclusion of the boat tour, the Puget Sound growers provided comprehensive talks on geoduck farming to our honored guests.

That afternoon, the group traveled to Pacific Seafoods processing plant in South Bend Washington for a box lunch and plant tour. During the plant tour, the Army Corps of Engineer leaders were able to see how oysters are delivered, processed, and packaged. They observed the latest automation systems being used to process shellfish and understood how much the industry relies on skilled labor.

The tour concluded with a sincere gratitude from our guests for the opportunity to experience and better understand the dynamics of shellfish farming in the Northwest.

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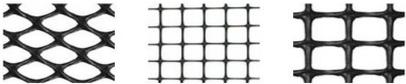


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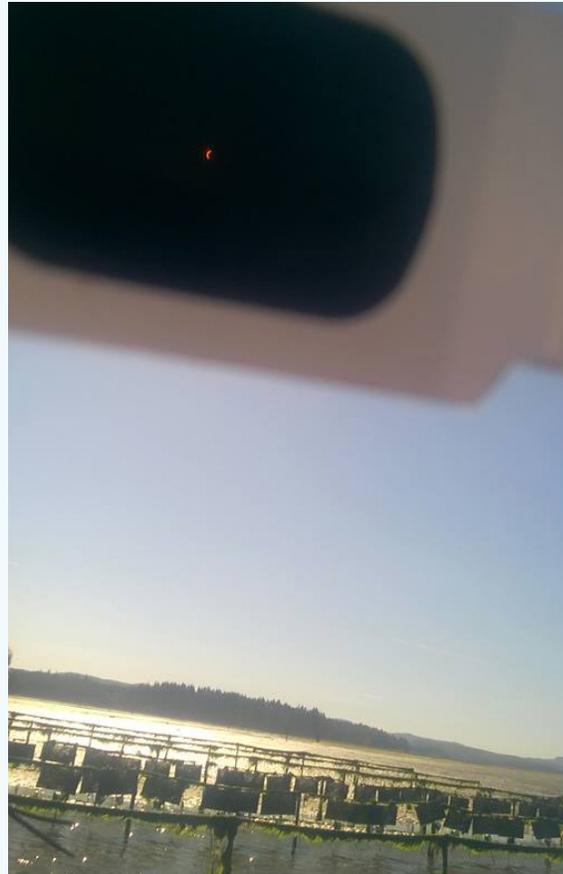
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Solar Eclipse

On Monday, August 21, 2017, skies darkened from Oregon to South Carolina in the first total solar eclipse visible from coast to coast across the United States in 99 years.

With a day-light low tide, many shellfish growers were hard at work in, or just outside, "The Path of Totality".

Take a look at the sun from Bay Center, Washington. Just make sure you are wearing your protective lenses!

Photo Credit: Stuart Thomas, Taylor Shellfish Farms

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Momentum Grows for Aquaculture in the United States

Chris Oliver, NOAA
Assistant Administrator for Fisheries
September 25, 2017

We are kicking off National Seafood Month a little early this week by putting a special spotlight on aquaculture, including the vital role it plays in the seafood supply, jobs and opportunities in coastal communities, and species and habitat restoration. At NOAA, and at the Department of Commerce, marine aquaculture is an important part of our strategy for building economic and environmental resiliency in coastal communities and in supporting healthy oceans.

NOAA Fisheries and its predecessor agencies have been involved in aquaculture for more than 125 years, pioneering fish culture methods and stock enhancement techniques to replenish wild stocks. Many culture, hatching, and rearing techniques currently used by the industry worldwide were developed in NOAA labs, such as the Milford, CT, lab for mollusks; the Manchester, WA, lab for salmon; and the Galveston, TX, lab for shrimp.

Positive momentum for marine aquaculture is growing and it's showing. In 2015, U.S. aquaculture producers raised 41 million pounds of salmon, 33 million pounds of oysters, and 10 million pounds of clams along the nation's coast. Farm-raised seafood accounted for 20 percent of total seafood production by value in 2015. Around the nation in many fishing and coastal communities, aquaculture is creating important economic opportunities and year-round employment.

Marine aquaculture is also a resource-efficient method of increasing and

diversifying U.S. seafood production that can expand and stabilize U.S. seafood supply in the face of environmental change and economic uncertainty. Some marine aquaculture, such as shellfish and seaweed aquaculture, provide environmental benefits by removing excess nutrients from our waterways.

Aquaculture is also used for species and habitat restoration, and is part of a strategy to recover priority species. Currently, aquaculture practices are used to prevent the extinction of several species that the agency has identified as being at high risk of extinction, including endangered abalone, some Pacific salmon stocks, and Atlantic salmon.

Limits to wild fisheries, stock enhancement efforts, environmental changes, and trends in global seafood demand underscore the need for the agency to foster sustainable U.S. marine aquaculture production in a way that provides even more environmental and economic benefits to the American public. We are working with renewed vigor on a number of internal initiatives to facilitate economic development of marine aquaculture, including streamlining permitting processes.

So join me this week as I track down a couple dozen fresh, farmed oysters and enjoy the heck out of them. They are definitely delicious.



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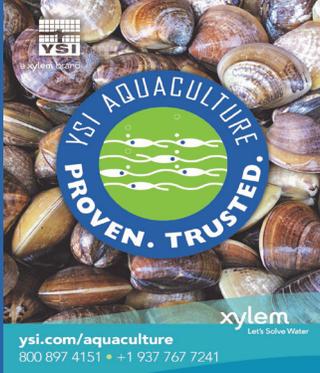
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Another Long... But, Important Message About Vibrio

Rob "Skid" Rheault
Executive Director
East Coast Shellfish Growers Assoc.

A Vibrio parahaemolyticus workshop was held in Baltimore, MD on September 6th and 7th to review recent research and control plans to see if we cannot get a better grip on how to control this challenging bacterial pathogen. The meeting was well attended by federal and state regulators, health officials, research scientists and industry representatives.

For those who are not familiar, V.p. is a naturally occurring bacterium that is not associated with pollution. Annually there are 200-500 confirmed cases associated with seafood consumption (crab, shrimp, lobster, clams and primarily oysters), and another 100 or so associated with wound infections. Approximately 1% of V.p. infections are fatal (typically immuno-compromised individuals with liver disease, cancer, or those taking drugs to suppress the immune system.) The Center for Disease Control (CDC) estimates that there are vast numbers of unreported and undiagnosed cases so they project the actual number of infections is around 45,000 annually in the U.S.

The CDC presented data showing a large bump in V.p. infections in 2013 and slight increases in 2014 and 2015. Numbers in 2016 are down substantially, but they expect those

numbers to go up once all the data are collected. There was quite a bit of debate about whether numbers are still going up or if new harvest controls are working to reduce illness risk (as data from many states would seem to indicate).

Even if illnesses are going up, there is a good chance that the risk-per-serving is going down because there have been rapid increases in harvests, substantial shifts from shucked to whole in-shell for raw consumption, and a substantial increase in summer consumption rates. Unfortunately the production and harvest data is very poor for most states, and the size of a serving varies regionally so getting at these important factors is essentially guesswork.

Erin Burdett from the CDC showed the data indicating that illnesses continue to climb. 41% of cases had some form of preexisting medical condition, 63% were oyster-related, while 17% were clam-related. On the Atlantic coast 75% of infections were food-borne, while other regions had a higher proportion of wound infections. Most troubling to me was that only 20% of illness tracebacks successfully identified a harvest area, while an additional 19% were multi-source illnesses that involved potential exposure to shellfish (or other seafood) from a different harvest area.

One of the more disturbing trends is the increased use of "culture

independent diagnostic testing" or CIDT to identify the pathogen causing illness in a patient. This procedure is rapidly gaining popularity because it is fast, easy and cheap. Essentially it looks for snippets of DNA for many of the most common pathogens in the stool of hospital patients. Health officials note that it is catching a lot more Vibrio infections compared with the old culture enrichment methods, largely because Vibrios can be difficult to culture. The downside is that many tests will show that a patient is positive for several pathogens, and if a patient has eaten oysters in the past week the assumption is automatic that Vibrio is the causative agent.

If you have been following the Vibrio situation over the past 4-5 years, you have heard about the introduction of a new more virulent "West Coast" strain, sometimes called O4:K12 or more recently ST36. This new strain has caused several outbreaks and closures since 2012 and has caused the entire New England industry to drastically change its harvest practices and reduce the time to refrigeration. The new strain is more virulent, we just don't know how much more virulent it is. We do know that 85% of illnesses in New England were related to two highly-virulent strains of Vibrio, and if we didn't have these in our waters no one in New England would even be talking about the mere handful of sporadic V.p. infections that used to be typical.

Continued on page 9



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Continued from page 8

So what is working?

We believe that new harvest controls have been effective in reducing illnesses in New England and in Washington State. Connecticut reduced their illnesses to one or two a year with the adoption of “rapid cooling” (icing and slurry dips to achieve a 50 degree internal temperature within one hour of harvest). Massachusetts has gotten illnesses down by ratcheting down the time to ice and refrigeration as well. In 2015 Washington State implemented a novel system of preemptively closing areas with a history of illnesses based on water and air temperatures. A locally targeted approach to controls that allow a range of approaches rather than a single blanket statewide control plan, appears to be having the greatest success, despite being resource intensive to develop and challenging to enforce.

What is not working?

We have only detected the outbreak strain in the environment once! Testing is still very expensive with individual samples costing hundreds of dollars making experiments very costly. The techniques we use now can give highly variable counts even on replicate samples. We see a pretty good correlation with temperature most of the time, but we are a long way from being able to predict when V.p. is going to cause illnesses based on water or air temps or any environmental variables like salinity or chlorophyll.

We know that consumers are getting more susceptible. Consumption of antacids or proton pump inhibitors (PPI) like Nexium or Prilosec can make shellfish consumers ten times more likely to get foodborne illnesses. The rate of consumption of these drugs is exploding. One report showed a tenfold increase in PPI prescriptions in just the past four years! States reported that 10-60% of V.p. outbreak patients reported using PPIs or antacids. Americans are

also more likely to go to a doctor for a case of the trots than they used to. Press reports of others getting ill will often trigger a flood of people calling to report that they too had stomach distress.

We still have little idea of our harvest numbers in all but a handful of states. If we don't know how many oysters are being served, we will never be able to calculate the risk-per-serving to determine if rates are getting better or worse. If harvests and raw consumption rates are increasing as many suspect, then our risk may actually be declining even while illnesses are increasing.

Tracebacks are still not working. According to the CDC less than 20% of illness diagnoses traceback to a single harvest area. Restaurants are not keeping tags or cannot identify when a bag was served. People can't remember where they ate, and more oysters are being served with oysters from multiple harvest areas. If we cannot do a better job with traceback, we won't be able to identify what control measures are working.

What is on the horizon?

We have lots of smart folks working on several of the challenges outlined above. Our detection ability is getting better and new techniques to pinpoint the pathogenic strains in a haystack of benign non-pathogenic Vibrios are being developed. Our industry has gotten the message and growers are protecting themselves by dropping a dime on harvesters and dealers who might be cutting corners. Folks realize that using ice is far preferable to an area closure and the expensive recall that a few illnesses will trigger.

Stay tuned. There are sure to be contentious proposals coming forward at the Interstate Shellfish Sanitation Conference meeting in Myrtle Beach in October.



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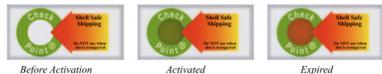
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Port of San Diego Tours Washington Shellfish

Paula Sylvia
Program Manager of Aquaculture, Port of San Diego

In 2015, the Port initiated a new Aquaculture and Blue Technology Program to explore new environmental and economic opportunities in and around San Diego Bay. In 2016, the Port established a Blue Economy Incubator and strategic investment fund to assist in the creation, development, and scaling of these new ventures. On June 20, 2017, the Board of Port Commissioners approved an agreement with San Diego Bay Aquaculture to operate a Flupsy shellfish nursery operations in San Diego Bay. More information on the incubator process can be found at www.portofsandiego.org/business/blue-economy-incubator.html.



(Left) Port Commissioners Malcolm and Merrifield at Taylor Shellfish Hatchery in Quilcene, WA. Photo credit Eileen Maher

On September 7-8, Port of San Diego Commissioner members and staff

journeyed through Washington state and toured various shellfish operations to gain a stronger understanding of the scope and diversity of this segment of the industry. Beginning our visit at Taylor Shellfish Hatchery in Quilcene, we were enlightened by Benoit Eudeline on the intricacies of hatchery operations and their intensive algae production.

We then headed south to Jamestown Point Whitney Venture LLC and met with Matt Henderson who impressed us with innovative approaches to elements of running an oyster nursery. As we continued south on Hwy 101, we stopped at Hama Hama Oyster Co. and met with Adam James and Justin Stang who exposed us to different

(Right) Matt Henderson from Point Whitney Shellfish Hatchery with Commissioner Malcolm and Randa Coniglio (President/CEO).

types of grow out technologies, and gave a tour of the processing area. Of course we couldn't leave without tasting the amazing selection of delicious shellfish courses for lunch at the Saloon. After a busy day, we landed in Olympia for an evening of delicious culinary experiences at Chelsea Farms Oyster Bar, where the Chelsea Gem and geoduck were huge hits, as well as the company of Shina Wysocki!

(Right) Bill Dewey showing oyster seed to Commissioner's Merrifield and Malcolm, and Paula Sylvia, Program Manager of Aquaculture. Photo credit Eileen Maher.

The next day, we met with Bill Dewey at Taylor Shellfish Farm's processing plant in Shelton. We discussed the amazing history of not just Taylor's operations but also the Washington shellfish industry as a whole. We then toured Taylor's and Chelsea Farms' Flupsy operations for an in depth look at the shellfish nursery process. In route back to Seattle, a stop over at Snow & Company revealed the progress on the Port's Flupsy being built to support the Port's new partnership with San Diego Bay Aquaculture.

(Right) Chelsea Farms Flupsy Operation with the Port of San Diego Commissioners members and staff, Chelsea Farms crew and PCSGA.



The Port of San Diego extends our sincerest and heartfelt gratitude to PCSGA and all the members that we were able to visit during our tour. Thank you for the warm welcome. Every step of the way we were touched by the deep rooted traditions and multi-generational aspects of all the operations we visited. Becky Mabardy from PCSGA was instrumental in understanding the scope of the Port's interest and designing and coordinating an amazing cross sectional tour for the short period of time that we were able to visit. We will always be grateful for the amazing experience and for how much we learned. We are eager to take what we have learned and apply it to our Blue Economy Incubator projects in San Diego, and we look forward to sharing our progress from San Diego as we embark on new aquaculture and blue technology initiatives.

Hog Island Oyster Co. Coordinates Cleanup Day on Tomales Bay

Brenna Schlagenhauf
Hog Island Oyster Co.

On September 16th, in conjunction with the International Coastal Cleanup efforts, we hosted our first California Coastal Cleanup. Sponsors throughout the community contributed to this event. We had over 60 volunteers who removed over 1,000 pounds of trash from Tomales Bay and adjacent roadways!

Mark your calendars for the next cleanup event: September 15, 2018.

Even more important, we've created a great foundation of community partnership and collaboration for future events. I look forward to this being an annual affair on Tomales Bay.

I have a very heartfelt thank you for all of the contributions and participation in our event. It was a pleasure and honor to work with each of you.

And a huge thank you to PCSGA for being an event sponsor and donating \$380 from SLURP funds.



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Highlights from the 71st Annual Shellfish Growers Conference and Tradeshow

Welches, Oregon
September 18-21, 2017

268 conference and tradeshow attendees	5,127 dollars raised for John Lentz Profiles in Innovation Speaker Series and PCSGA Grower Enrichment & Development Fund	10 gallons of shucked oysters donated for Grand Banquet
24 tradeshow booths	50 pounds of clams donated for the Opening Night Tradeshow Reception	66 items donated to the Silent Auction



Above: Dr. Niels Lindquist of Sandbar Oyster Company and Oyster Catcher™ was invited as the John Lentz Profiles In Innovation Speaker. He presented on biodegradable hardscape for the creation of diverse oyster-based products for aquaculture, habitat restoration, and living shorelines. Grower members were invited to a special reception to visit with and honor our guest.

Grand Prize Winner Ecosystem Services Photo Contest



Brian Kingzett, Willapa Bay WA

Short Billed Dowitchers feeding in a complex of eelgrass and oysters at Goose Point Oyster beds in Willapa Bay. This complex of oysters and eelgrass produces biofilms and habitat for numerous small prey items for foraging shorebirds.

Thank you to the planning committee, sponsors, tradeshow exhibitors, guest speakers, volunteers, shellfish donation, and silent auction donors for your many contributions!

Dave Steele is the 2017 Prince of Tides!

Award inscription states:

"Your family is truly at the foundation of the Pacific Coast's shellfish industry and you demonstrate dedication to this community by freely giving your time and through your integrity, diplomacy, and dedicated leadership. You are a consistent and strong advocate for shellfish growers and your ability to consider every aspect of an issue make us all smarter and stronger. You have accrued immense wisdom and expertise, deserving of a quiet retirement, yet instead you opted to reinvigorate your family's farm and grow that company exponentially. Similar to Rock Point Oyster Company's most special state license number, you're number one to us too!"



Above: Tradeshow exhibitors from Norplex Inc., Taylor Shellfish Company, Thunderbird Plastics, and Alaska Packaging Inc. toast to good company and creative haiku writing.



Left: NSA raised \$500 for students at their creativity contest, "Van Gogh-e-duck Challenge". Some of the art pieces created, like the pictured "Feathered Sand Flea", were even purchased in the silent auction.

House and Senate Proposed FY18 Budget for NOAA Programs & Grants that Bolster the Shellfish Industry

Under the Oceanic and Atmospheric Research:

Climate Research: funded at \$158M in FY 17

- House wants a 19% cut
- Senate wants to preserve funding at current levels

Ocean Acidification: funded at \$10.5M in FY17

- House wants a 3.74% cut
- Senate wants to add 4.76%

Sea Grant: funded at \$63M in FY17 (zeroed out in President Trump's request)

- House wants to keep the program level funded
- Senate would add \$2M

Marine Aquaculture Program -- a research line formerly under Sea Grant: funded at \$9.5M in FY17 (zeroed out in President Trump's request)

- House wants to cut the program 26% to \$7M
- Senate would add \$2M (21%)

Under the National Ocean Service:

Competitive Research Grants: funded at \$10M in FY17

- House wants to cut these in half
- Senate proposes a 10% increase to \$11M

Coastal Resilience Grants: funded at \$15M in FY17

- House wants to zero these out
- Senate would preserve them at current levels

Under National Marine Fisheries Service:

Aquaculture: funded at \$9.3M in FY17

- House wants to cut this to 8M
- Senate is asking to boost the line to \$15M

Overall - the house would trim NOAA by \$684M, while the senate is asking for cuts of only approximately \$65M.

If these programs are important to you, then by all means, you should voice your opinions to your elected officials now as these items are being debated.



Thank you Taylor Shellfish Farms for donating shellfish product for the PCSGA ice display table at all the PCSGA's outreach events throughout the season!

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Grower Member Attends Conference Thanks to PCSGA Grower Enrichment & Development Fund

Stuart Thomas
Taylor Shellfish Farms

I attended the 2017 Shellfish Growers Conference and Tradeshow in Welches, Oregon thanks to the PCSGA organization who provided me with Grower Enrichment and Development Funds. One topic that stood out and received a lot of attention from the attendees was our vulnerability to the threat of the microvariant OSHV-1, Pacific oyster Herpes virus, on the West Coast.

We heard important practical lessons for business survival from Australia when the worst-case scenario becomes a reality. We learned about the challenges of immunization for Oyster broodstock, and heard real experiences and perspective closer to home in California. Each year in Tomales Bay, growers grapple with a less deadly variant of Oyster Herpes virus.

Much of the OSHV-1 research done on the West Coast has focused on the oysters of Tomales Bay thanks to collaboration with the growers there. It was notable that those in attendance of the open discussion, held after presentations on the topic, were shocked at the speed and intensity

that this virus can affect entire regions from a single, unknown point-source, in many cases destroying over 90% of Pacific oyster crops.

However, we should be encouraged to hear that work is underway on the west coast to better understand the biology of OSHV-1, to and try and get out in front of this disease quickly. It is reassuring that we have great talent between our growers and scientists. There is a strong drive from State Wildlife regulators and our own PCSGA organization to act quickly in bettering our understanding, communication, and quickly improving our biosecurity standards as a community.

With the chance to hear from and ask questions to those experienced with OSHV-1, this proved to be a valuable session at the conference. Our futures in shellfish will depend on our ability to react quickly, share information, and adapt together on this issue.

It is so important to use the conference, and the community connections it fosters, to share information and feedback. This event connects talented groups, each reaching toward common goals. We all benefit from sharing the experiences and lessons learned. Collaboration can be our salvation in the face of the challenges ahead, or else we might miss the opportunity to learn and adapt together. One of us alone won't have the solution, but together we are stronger.

Thank you PCSGA and everyone for their important work. We are in a better place because of you.

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Judge Refuses to Dismiss Oysterman's Lawsuit Against State Over Dairy Pollution

Mateusz Perkowski
Capitol Press, September 29, 2017

An Oregon judge at the Tillamook County Court House has refused to dismiss a lawsuit that alleges state environmental regulators allow pollution from dairies to harm oyster harvests in Tillamook Bay. Attorneys for the Oregon Department of Environmental Quality (DEQ) argued the agency cannot be held liable for the adverse effects suffered by oysterman Jesse Hayes, president of the Hayes Oyster Co.

According to Hayes' lawsuit, the DEQ incorrectly assumes that local dairies aren't discharging fecal coliform bacteria into rivers that flow into Tillamook Bay. Nonetheless, bacteria levels in the bay are so high that Hayes is entirely prohibited from harvesting oysters from 250 acres of his plats and faces frequent shutdowns on 350 acres, according to his complaint.

Hayes argues that insufficient regulation by DEQ constitutes a public nuisance and an unjust taking of his property due to lost profits and reduced plat values. The complaint seeks \$100,000 in damages and an order requiring DEQ to strengthen its pollution regulations in the area.

Without deciding the merits of the case, Tillamook County Circuit Judge Mari Garric Trevino denied DEQ's motion to throw out the lawsuit and ordered the agency to answer Hayes' allegations. The ruling means that Hayes has cleared an important first hurdle and may proceed with the litigation. "We get to prove what's in our complaint," said Thomas Benke, his attorney.

During oral arguments on Sept. 29, DEQ claimed that Hayes incorrectly targeted the agency rather than the dairy farmers who are alleged to be the underlying source of the problem. "The government is not responsible for inaction," said Christina Beatty-Walters, DEQ's attorney. "That's not a situation the government is responsible for."

The lawsuit also attempts an impermissible "collateral attack" against state regulations, which can only be challenged through an administrative process, said Beatty-Walters. The state's "total maximum daily load (TMDL)" order for fecal coliform bacteria in the region was enacted in 2001, so Hayes missed a deadline to challenge the action by 16 years, Beatty-Walters said. "They're way too late," she said.

According to Hayes, the complaint against DEQ is valid because it's challenging the adverse impacts that insufficient TMDL rules have imposed on his oyster operation, rather than attacking the validity of the regulations themselves. The agency made the decision to take away the use of 250 acres of tideland from the Hayes Oyster Company perpetually," said Benke. Hayes argues that DEQ has unlawfully sanctioned pollution, which is a form of government taking.

The agency could restrict pollution from dairies with confined animal feeding operations or from municipal wastewater, but it's the act of allowing excessive pollution that Hayes is challenging in court, Benke said. While polluters received notice of the agency's TMDL regulation 16 years ago, Hayes did not and should still be allowed to seek a legal remedy, he said. "It flies in the face of fundamental due process," he said.



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Aloha from the Center for Tropical & Subtropical Aquaculture

Cheng-Sheng Lee, Ph.D.
Executive Director, CTSA
Aug 30, 2017

The Northeast Regional Aquaculture Center (NRAC) recently published the results of an economic assessment which found that a modest investment of just over \$4 million in NRAC projects from 2005-2014 generated almost \$79 million in GDP and 777 jobs in NRAC states. This data provides clear evidence that the Regional Aquaculture Centers are a worthwhile grassroots driven federal program, and I congratulate the stakeholders who contributed to bring the Northeast aquaculture industry to this point of significant return on investment!

As we commend the economic success of our fellow Regional Aquaculture Center, the assessment has prompted me to think about what we can accomplish through aquaculture in our own isolated region. The Pacific Islands have an abundance of pristine resources that can be sustainably utilized to expand U.S. aquaculture production. However, logistical challenges have made large-scale commercial farming difficult, and our aquaculture industry remains relatively small.

In spite of our differences from our counterparts across the country, both in the status of aquaculture and levels of production, I believe we must strategically focus on making the most meaningful impacts using our regional capabilities. Accordingly, Center for Tropical and Subtropical Aquaculture (CTSA) has supported capacity building projects to increase skillful local workforces, jobs and revenue opportunities in impoverished island communities, such as the ongoing marine finfish project in the Marshall Islands. We have also supported projects that have had important impacts beyond our region, such as the ongoing work to establish oyster production in Hawaii, which is proving to be an essential resource for the oyster industry on the U.S. west coast.

Moving forward, our program wants to continue using our limited budget in support of worthwhile innovative research and technology transfer efforts to achieve the maximum return on our investment. We look forward to working together with you, our valued stakeholders, to make our small regional aquaculture industry more cohesive and purposeful.

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Carrying-On and Expanding the Ongoing Tradition of PCSGA Beach Cleanups in Washington State

Becky Mabardy
PCSGA Outreach and Projects Coordinator

South Puget Sound

Willapa Bay and Grays Harbor

Over the last few years, PCSGA heard from our member's on the Washington coast and the surrounding communities that marine and aquaculture debris is an issue in need of attention and support. PCSGA worked to address this regional need by placing dumpsters throughout Willapa Bay and Gray's Harbor one weekend per year for company-organized beach cleanups. SLURP funds pay for this opportunity that allows growers free disposal of any aquaculture gear from farms, upland facilities, and surrounding beaches before it potentially escapes during winter storms.

This year marked the 2nd cleanup for shellfish growers on the coast during the weekend of September 16-17, coinciding with the International Coastal Cleanup on September 16th. Shellfish growers collected and disposed of several tons of debris. This summer, PCSGA heard from Willapa Bay Wildlife Refuge, Dept. of Natural Resources, and WA Dept. of Fish and Wildlife that their survey teams are seeing less shellfish gear in the bay, and they are very pleased. Keep up the great work; your efforts are noticed!

PCSGA geared up for our 26th Bi-Annual Shellfish Growers -- South Puget Sound Beach Cleanup on October 12th. Early Thursday morning, shellfish growers scoured shorelines for marine debris of all types.

Over the last 15 years, the shellfish industry has expanded, and yet the composition of debris collected during these cleanups remains fairly constant -- with debris NOT related to shellfish aquaculture making up 80% of the collection. Of the small amount of shellfish gear recovered, about half is typically returned to shellfish grower's farms, instead of the landfill.

It is one of PCSGA's primary goals to work with our members to minimize the amount of gear escaping from farms during storm events, and cleanup gear that enters our waterways. Please remember to maintain the integrity of gear on farms! Keeping our beaches clean is a group effort and it is critical that shellfish growers acknowledge their role in taking care of the shorelines where farming occurs.

PCSGA can never offer enough thanks to all who give their time and energy to this cause year after year, and what a difference each pair of hands makes toward this tradition of environmental stewardship!

.....

*Fees to dispose of the debris are raised at SLURP.
If you see debris along the shoreline or in the water, please
report it to the PCSGA Marine Debris Hotline:
(360) 489-0141, or email beckymabardy@pcsga.org.*



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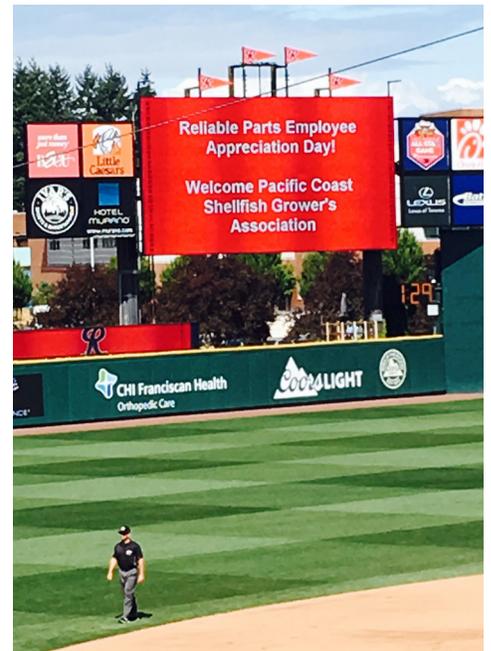


PCSGA APPRECIATION DAY 2017!

It was a warm Sunday on August 13th when we thanked our committed members who volunteered their time and energy to support the Association this year.

Here we are at the Cheney Stadium watching the Tacoma Rainiers take down the Reno Aces!

We hope you will join us again next year.



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2017 CALENDAR

Explore www.PCSGA.org for all events!

OCTOBER

- 6-8: Dungeness Crab & Seafood Festival, Port Angeles WA
- 7-8: OysterFest, Shelton WA
- 7-8: Skagit Valley – Festival of Family Farms, Bow WA
- 10: PCSGA Board Meeting via Conference Call
- 14-19: ISSC Biennial Conference, Myrtle Beach SC
- 15: Ecosystem Services Photo Contest Submission Due

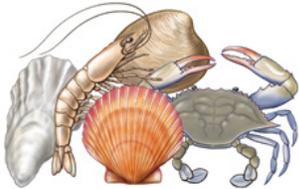
NOVEMBER

- 14: PCSGA Board Meeting via Conference Call
- 15: Ecosystem Services Photo Contest Submission Due

DECEMBER

- 12: PCSGA Board Meeting via Conference Call
- 15: Ecosystem Services Photo Contest Submission Due

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Please Welcome PCSGA's 2017-2019 Board Members 2018 meetings dates coming soon!

The board represents the regions of our membership and provides leadership to the organization based on all of our members' needs. All members are invited to attend monthly board meetings online and live meetings (3 times per year).

Washington: South Puget Sound

Vicki Wilson, Arcadia Point Seafood
Duane Fagergren, Calm Cove Oyster
Kyle Lentz, Chelsea Farms (*Vice-President*)
Lisa Redfern, Seattle Shellfish
Bill Taylor, Taylor Shellfish Farms

Washington: North Puget Sound

Ralph Riccio, Jamestown Point Whitney Venture
David Fitzpatrick, Kilisut Harbor Shellfish
Ian Jefferds, Penn Cove Shellfish
Alice Helker, Set and Drift Shellfish

Oregon

Svein Wiese-Hansen, Pacific Seafood (*Member At-Large*)

Washington: Willapa Grays Harbor

Richard Wilson, Bay Center Mariculture
Kathleen Nisbet Moncy, Nisbet Oyster Co. (*Secretary*)
Marilyn Sheldon, Northern Oyster Co.

Washington: Hood Canal

Dave Steele, Rock Point Oyster Co. (*Treasurer*)

California

Miranda Ries, Coast Seafood Co. (*President*)
John Finger, Hog Island Oyster Co.

Alaska

Margo Reveil, Jakolof Bay Oyster
Trevor Sande, Hump Island Oyster Co.

Remember, you make our work possible!

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