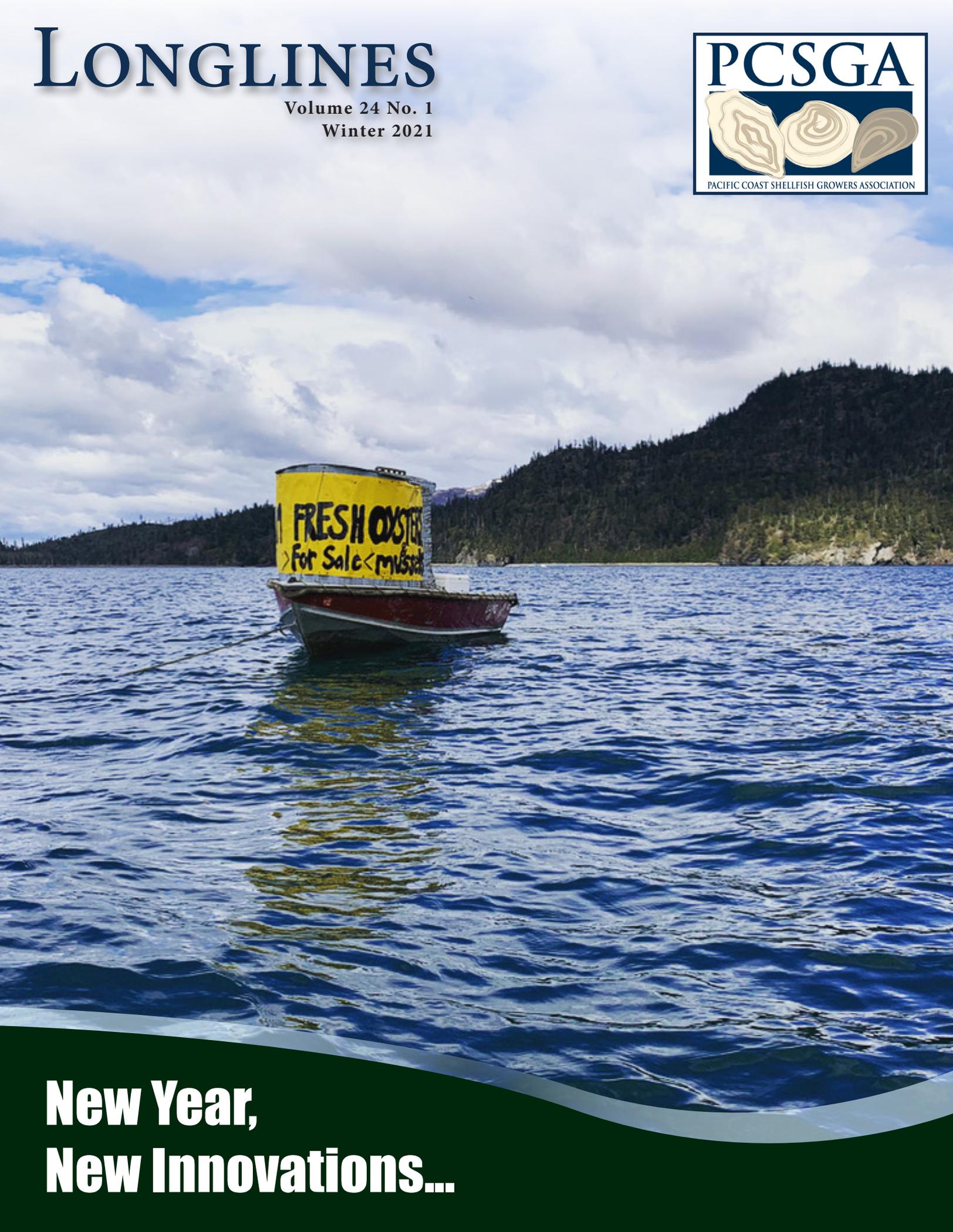


LONGLINES

Volume 24 No. 1
Winter 2021



**New Year,
New Innovations...**

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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Executive Director

Connie Smith
Assistant Director

Sara Bywater
Outreach & Project Coordinator

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Comments and questions about *Longlines* are invited.
Please email:
outreach@pcsga.org

What the Tide Brought In

Notes from the Director

I originally thought these words would be an “atta-girl/boy” piece highlighting our 2020 accomplishments. Then, I considered a “rah-rah” piece about staying positive for the new year ahead of us. But today, there are protesters rushing the Capitol Building in DC. Everything I thought I knew about our democracy and our country is being challenged. I am scared and deeply saddened about what seems to be unfolding. Enough! I can’t manage through one bit more! Turns out this girl needs her dad.



My whole life, my dad has played a special role; every memory that includes time with him is remarkable. As a kid, I joined my dad on day-trips to Boston for professional conferences - which meant getting his name badge, then escaping together to explore the city and eat Chinese food. My dad and I shared numerous Pink Panther movie dates and I aided with house projects by handing him tools as if he were performing surgery. I was the kid who sat alongside him in the cab of a rented moving truck while the other kids helped mom. And likewise, he sat alongside me for hours and hours as I grudgingly conjugated French verbs.

My mother did most of the family disciplining and she had no problem telling you exactly what she thought - loudly. When I was “done” hearing from her, my dad would appear with something witty and hopeful which set the stage for healing and moving on. I remember when I was a student in RI and my first speeding ticket showed up at my house in VT. My mom was furious and screamed at me over the phone. Then, like a fresh cool breeze, her words “here, talk with your father”, instantly made me feel better. My dad took the phone and through my sobbing I heard “oh, honey...don’t worry...you come from a line of speeders...” I chimed in with “But...but...what about mom? She’s so mad”. Which was rebutted with “Don’t worry. This is minor. You’ll be driving those optimum speeds again soon.”

Once I hit college and still to this day, when I share my troubles with my dad his first words are “Do you need me to come there and rub somebody out?” Trust me, my dad would never impose harm - he is one of the kindest, most thoughtful men on the planet. However, I know that he offers me that “Sicilian option” in order to demonstrate his unconditional support. He also knows that, regardless of how flustered or upset I might be, those words make me giggle. Truth be told, in the era of anti-shellfish voices, permitting, and lawsuits, I’ve been known to answer his question with “Yes, Dad! I have an entire list! How soon can you get here??”

Of all of the pandemic-related impacts, the one that hits me hardest is not being able to be with my dad. He lives alone, outside of DC, and is staying busy by reading, mostly in Italian, and practicing the ukulele. One way we remain connected is by working our way through the treasure trove of my mom’s recipes. We can spend hours on the phone recalling meals, discussing methods to recreate dishes, and offering critiques of the attempt - a situation of which my husband and kids are enjoying immensely.

I wish you all a new year filled with peace, joy, and people like my dad.

Be safe. Be strong. Be well.

Margaret A. Pilaro

Pearls from the Prez...

What is in store beyond the pandemic that rattled our way of life throughout 2020? Things certainly have not magically restored themselves as many had hoped they would at 12:01 on January 1, 2021. In fact, quite the opposite has occurred. We've seen chaos reign in Washington D.C; the Washington state governor has seen protestors on his front doorstep; we've seen constitutional rights ripped away with seemingly no recourse; and meanwhile we farm. We fight to save the industry that many of us have grown up in. We apply for permits and continually engage with decision makers to ensure our voices are heard – no easy task considering the priorities that seemingly take up all the air in the room.

And yet we farm. We mask up and get the job done! We apply for relief funding, individual permits, and the right to farm species that are naturalized to our coast. We fight the good fight. 2021 will be another challenging year but I am hopeful, and I hope you can be too.

The start of a new year is the traditional time we take stock of ourselves, our lives and our future. We also look for all the brightness that we yearn to see. Will we get an effective vaccine widely distributed? I pray yes! Will the soul of many cities, restaurants, survive? Again, I pray yes! Can we get permitted coverage to farm? Recover from the dismal sales? We must pray yes!

We have work to do and we have opportunities. PCSGA is full steam ahead and our small but mighty staff are ready for it! Margaret, Connie and Sara continue to host a variety of Zoom meeting to discuss research priorities, federal, state and local permitting, funding pathways, health and safety for employers, state lobbying effort and many more. But in order for these groups to be effective we need you! Yes, the tired, frustrated, overwhelmed, and sometimes defeated, you! The work we do now may not immediately open the market or stamp a permit, but it will work towards our future. We must keep our eye on the long-term goals we have for our industry - that takes voices, knowledge, financial support, and a willingness to engage. Can you spare yourself a Zoom meeting or two? See your fellow shellfish farmers' faces and hear what they are experiencing? You may have something to say to help ease their burden and vice versa. Please bring your face, your voice and your experience to 2021, because together we can, and we will survive!

I pray for peace, comfort and nature's bounty to you all.

"There is a crack, a crack in everything, that is how the light gets in"

- Leonard Cohen



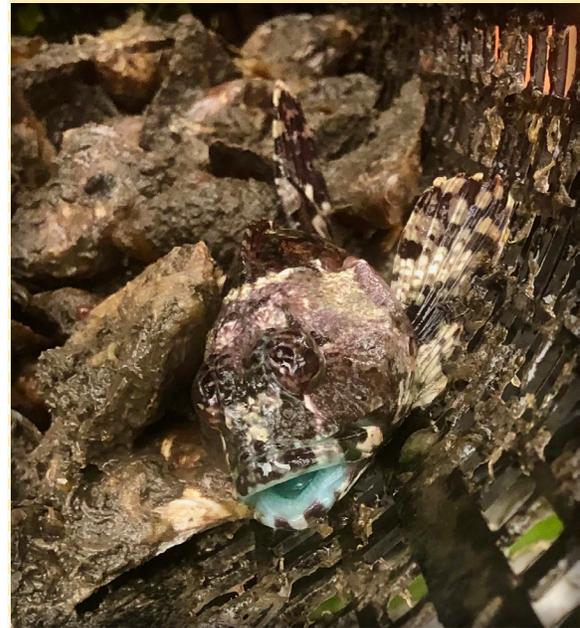
Miranda Ries
Pacific Seafood, Pacific Shellfish

Cover Photo: Alaska Shellfish Farm's self-serve farm stand in Halibut Cove, Alaska. Weatherly and Greg Bates have been selected as Alaska's Farm Family of the Year for 2020. See the press release on page 5. Photo credit: Alaska Shellfish Farm

MONTHLY ECOSYSTEM SERVICES PHOTO CONTEST WINNERS!



November: Mark Seymour photographed Plainfin Midshipman juveniles that have yet to leave their nest atop a 20 plus year old Pacific growing within eelgrass.



December: Gary Fleener captured this photo of a juvenile cabezon found grazing among some Olympia oysters in a SEAPA basket on one of their leases in Tomales Bay. They know their farm provides habitat for a range of fish, but this character really made itself at home!

SNAP A PHOTO, WIN \$100!

Contest rules at www.pcsga.org

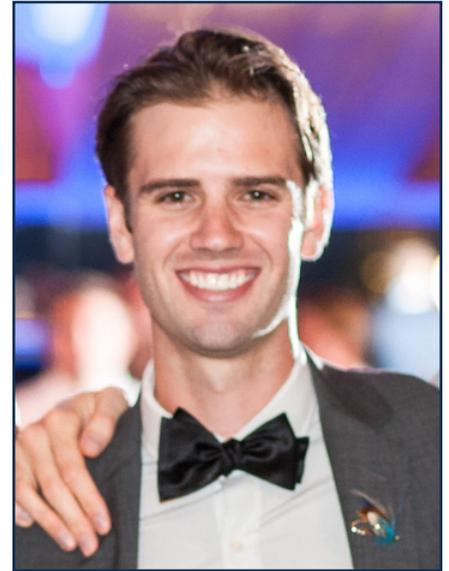
Photo and caption are due on the 15th of every month!

Introducing Neil Thompson, Research Geneticist in the USDA Pacific Shellfish Breeding Program

By: Neil Thompson, Pacific Shellfish Breeding Program

Hello and thank you for the incredibly warm welcome I have received! I've been fortunate to talk with many members via a mid-December webinar, but if I haven't been in touch with you yet please feel free to contact me (neil.thompson@usda.gov). I am eager to hear from you and learn about what challenges you think the Pacific Shellfish Breeding Program can help with.

The Pacific Shellfish Breeding Program is a program of the Agricultural Research Service, the in-house research group of the USDA. For years, the USDA did not have a shellfish geneticist and with my hiring, and substantial congressional funding thanks in part to the efforts of the PCSGA, the USDA is re-establishing a West Coast genetics program. My position is broadly tasked with utilizing new genetic technologies to identify disease resistant animals and select for improved growth and survival in the face of environmental change. We are located in the Hatfield Marine Science Center in Newport, Oregon and will be working closely with the MBP. The next few years is a transition period for MBP, as Chris Langdon prepares to retire, and USDA assumes control of the MBP via the rebranded Pacific Shellfish Breeding Program. My work is not limited to the MBP, so keep that in mind if you have ideas for potential research.



My background is in salmon research, using genetics to answer questions about domestication and uncovering the genetic basis to important traits. I am excited to work with shellfish and have been delving into the literature, getting up to speed on biology and genetics research. During COVID times (c'mon vaccine production!) I am focusing on gaining as much knowledge as possible so we can hit the ground running once we're vaccinated. I would love to visit as many of your operations as possible to see the commercial process in action. This also gives you full license to use me for labor during my visits!

I am eager to bring new genetic tools and technologies into shellfish breeding, in particular, for determining the genetic basis to OsHV-1 resistance/tolerance. Beyond disease resistance I am trying to identify the biggest needs faced by you, where selective breeding could make gains that result in tangible benefits. Think about specific traits that you'd like your oysters to be better at. Your input will drive the direction of the breeding program so now is the time to reach out and have your voice heard!

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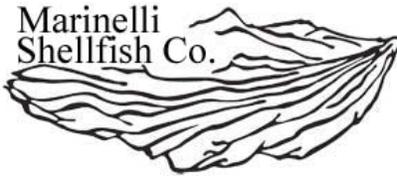
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Halibut Cove Shellfish Farmers Are Alaska's Farm Family Of 2020

Source: State of Alaska, Department of Natural Resources
Date: December 28, 2020



Photo credit: Alaska Shellfish Farm

PRESS RELEASE - (Palmer, AK) – Alaska's Farm Family of the Year for 2020 is the Bates family of Halibut Cove, whose determined operation of their shellfish farm in Kachemak Bay embodies the innovative, resilient spirit of Alaska agriculture even in the face of a global pandemic.

"Alaska agriculture is a growing, evolving industry, and nothing reflects that more clearly than the selection of oyster farmers as Farm Family of the Year," said Dave Schade, director of the Division of Agriculture. "Greg and Weatherly Bates have embraced the opportunities of aquaculture in Alaska, and their success in this new market sector points to a prosperous future for them and other farming families, as well."

The Bates both grew up the coastal culture of a seashore Rhode Island town, and after successfully managing a growing oyster farm there together they married, then honeymooned in Alaska. Falling in love with the state and its opportunities, they moved north in 2007 and started Alaska Shellfish Farm. With the help of their children, Rockwell and Vera, their growing family operation produces and sells oysters and mussels, and recently expanded into the evolving kelp market.

When the COVID-19 pandemic closed off national markets, they met the challenge by refocusing on local sales, even loading oysters on a small boat tied to shore for sale to locals on honor system, according to those nominating the family,

who added that "Weatherly and Greg are the hardest-working, most compassionate young couple we have ever met."

The "Farm Family of the Year" award was established in 2000 by the Alaska Division of Agriculture and the Alaska State Fair with the intent to honor an Alaska farm family that best epitomizes the spirit of the industry that year, and to show appreciation for hardworking Alaskans committed to agriculture, including Alaska's growing aquaculture segment.

With the COVID-19 pandemic driving many normal activities online, the division used online resources to increase the accessibility of the award and the visibility of the industry it supports, Schade said. Nominations, including the winning nomination, arrived online.

The Alaska Farm Family of the Year for 2019 was the St. Pierres of Ester, Alaska. Previous winners include the Olsons of Soldotna, and the McCollums and Pinklemans of Delta Junction.

CONTACT: John Whipple, (907) 761-3874, john.whipple@alaska.gov

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- *Discounts and rebates through allied partners*
- *Access to health care and business security with insurance partners*
- *Scholarships and funding opportunities for enrichment development*
- *Network for collaborations and information sharing*

WHAT DOES PCSGA DO?

We are your **advocate** and work with local, state and national partners to help define policies and regulations that affect your business.

We work with a team of consultants and scientists from leading universities and marine institutes to support **cutting-edge research**.

We believe **outreach** is key. We invite you to join our beach cleanup efforts, our annual community event (SLURP), and various festivals to help build relationships with the public that are vital to our success.

We recognize **education** is essential in achieving our long-term goals. We support programs that teach the value and benefits of our industry.

We organize an annual **conference and tradeshow**. You'll learn about current and emerging issues facing our industry - all at a discounted member rate.

We urge you to **get involved**. Volunteer at local festivals, join a committee, participate in our annual lobbying trip to DC and your state, or represent your region on our Board of Directors.



ALLIED MEMBER PROGRAM

Dedicated to local, national, and international businesses that support the shellfish industry.

ALLIED MEMBERSHIP LEVELS AND BENEFITS:

SUBSCRIBER \$40

- Subscription to quarterly newsletter, *Longlines*

FRIEND \$250

- Subscription to quarterly newsletter, *Longlines*
- Access to PCSGA membership list
- Membership rates to PCSGA Annual Conference

ASSOCIATE \$500

- 2.25" x 2" (w x h) display ad in quarterly newsletter, *Longlines*
- Annual Resource Catalog, with 1/8 page business ad and listing
- Company name listed on PCSGA website
- Membership rates to PCSGA Annual Conference
- Access to PCSGA membership list
- Subscription to quarterly newsletter, *Longlines* and PCSGA Listserv

SUSTAINING \$950

- Free Tradeshow Exhibit space and ticket to Tradeshow Reception at PCSGA Annual Conference
- 2.25" x 2.75" (w x h) display ad in quarterly newsletter, *Longlines*
- Annual Resource Catalog, with 1/4 page business ad and listing
- Full directory listing on PCSGA website, and link to your website
- Membership rates to PCSGA Annual Conference
- Access to PCSGA membership list
- Subscription to quarterly newsletter, *Longlines* and PCSGA Listserv

CORPORATE \$1700

- Annual Conference meeting fee waived for one
- Free Tradeshow Exhibit space and ticket to Tradeshow Reception at PCSGA Annual Conference
- 2.25" x 3.5" (w x h) display ad in quarterly newsletter, *Longlines*
- Annual Resource Catalog, with 1/2 page business ad and listing
- Full directory listing and company logo on PCSGA website, and link to your website
- Membership rates to PCSGA Annual Conference
- Access to PCSGA membership list
- Subscription to quarterly newsletter, *Longlines* and PCSGA Listserv

PATRON \$4,000

- Free entrance for two to PCSGA Annual Conference and Grand Awards Banquet; additional attendees pay at member rate
- Free Tradeshow Exhibit space and ticket to Tradeshow Reception at PCSGA Annual Conference
- 4.75" x 3.25" (w x h) display ad in quarterly newsletter, *Longlines*
- Annual Resource Catalog, with full page business ad and listing
- Full directory listing and company logo on PCSGA website, and link to your website
- Membership rates to PCSGA Annual Conference
- Access to PCSGA membership list
- Subscription to quarterly newsletter, *Longlines* and PCSGA Listserv
- Gourmet holiday gift basket

ATTENTION GROWER AND ALLIED MEMBERS!

Want to stay on board with PCSGA or join the Association for the first time?

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Renewing Members: www.pcsga.org/renew-membership-dues

New Members: www.pcsga.org/join-pcsga



PCSGA Grower Membership Application

Company: _____

Designated representative, for voting purposes: _____

Number of years in shellfish business? _____

Mailing address: _____

Geographic location of farm (e.g. west side of Hood Canal near Brinnon): _____

Phone: (____) _____ Email: _____

Name(s) of another grower near your farm location (if known): _____

Species you farm (check all that apply): Oysters Manila Clams Geoduck Mussels

In case of a toxic spill or other marine emergency, list the counties where you farm so we can notify you quickly: _____

Calculate Your Dues:

Membership dues are based on your annual sales. Calculate your dues amount by taking 1% of the annual farm-gate value of your shellfish. Farm-gate is the value received when selling product to a buyer or to a processor for further value-added processing.

Example: You harvest and sell clams directly to a distributor for processing. The distributor pays \$100,000. Your dues are 1% of \$100,000, or \$1,000. (.01 x \$100,000 = \$1,000)

Annual farm-gate sales of \$ _____ x .01 = \$ _____ dues (Minimum \$250)

Check one: 1 payment of _____

4 payments of _____ (due Jan, Mar, Jun, Sep)

Check VISA/MC # _____ Expiration Date: _____

*Payment will be charged to the above credit card once membership has been approved by the Board

SIGNATURE REQUIRED:

- I affirm that my membership dues amount is an accurate reflection of my annual production.
- I agree to comply with best management practices outlined in PCSGA's Environmental Codes of Practice (ECOP).

Signature _____ Date _____



Farmers' Corner



Written for you, by you - this is a place to share all the news from your farm. Celebrations, acquisitions, new ventures, the sky's the limit. Submit your news any time! Send to outreach@pcsga.org

A FRESH APPROACH FOR FRESH OYSTERS: RUNNING MY SMALL BUSINESS IN 2020

By: Alice Helker, Set & Drift Shellfish Farm

This article was originally written in December and published on LinkedIn. Set & Drift has continued with their Lake Union sales, and are now branching out into carrying other shellfish products as well.

Selling Fjordlux oysters direct off our boat on Seattle's Lake Union was definitely not in our shellfish company's plans for this year - but it was exactly what I found myself doing last Thursday.

In our three years of commercial harvest at Set & Drift oyster farm, our Fjordlux oysters have been sold almost entirely via our partner Hama Hama at premium seafood restaurants nationwide, with almost none direct to consumer. With the immense and heartbreaking impacts to the restaurant industry in 2020, however, this year has been different. In response, we recently made big changes to how we operate by bringing our oysters into Seattle for direct sales.

Finding an idea that worked...then come the details

It's one thing to read about businesses working out new strategies in response to the pandemic, but quite another to be a small business actually doing it. Direct sales off our boat is just one idea of several we brainstormed. Each idea required research to see if it really made sense, and it took some time to settle on this approach.

Even once we did decide on this format, there were still a lot of details to pin down. Selling oysters out of an oyster skiff involves way more logistics than probably how simple it sounds, from sourcing ice in an amount and price that made sense, to creating a contactless pick-up system (for our first week we used a food grade plastic pail to make this happen - fancy? Hardly, but it did the trick). Not to mention making sure we had all the certifications, payment platforms, and harvest arrangements in place for this new approach.

In the end, I'm happy to report that last Thursday went well. We're continuing the program, and potentially even adding other shellfish products.

Focus on what truly matters

Like many other businesses, we're running a tight crew in 2020. With just my husband and I working the farm while balancing outside responsibilities, we had to focus our limited time on getting what mattered right for these first sales - and be okay with less important things settling onto the back burner. For example:

- Most important? The quality and freshness of our oysters, and making sure our operation was socially distant, sanitized, masked, and safe for 2020.
- Less important? How our website appeared. When I finally went to publish the much fussed about draft of our fresh off the boat sales page, it didn't work. Making it the way we wanted would have taken too much time and expense, so the fix was a bright yellow and fuchsia banner at the top of our website. Though reminiscent of design circa 2004, it functions just fine.

I think about all the business owners around the world having the similar conversations and dealing with their own 2020 challenges. I especially think of our restaurant friends and partners. We are fortunate to have this opportunity and are deeply grateful for the help we've received in making it happen.

Aw shucks, we appreciate the enthusiasm and support

Overall, it is an absolute pleasure to continue to farm oysters, and bring healthy, sustainable, and tasty seafood to market. The support and enthusiasm we witnessed on Thursday in response to our oyster sales was heartening, and that alone made it worthwhile.

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The Shellfish Growers Climate Coalition is Turning the Tide on Climate Action

by: Gary Fleener, Hog Island Company; Jeff Hetrick, Alutiiq Pride Hatchery; Lissa James Monberg, Hama Hama Company; Sally McGee, The Nature Conservancy

We all know that the shellfish industry is an economic powerhouse. It's also an industry largely comprised of small, family-run businesses, many of whom have been making their living farming the sea for generations. Like most farmers, success for shellfish growers rests heavily on the right growing conditions—and climate change has been disrupting those conditions. Changing water temperatures, sea level rise, ocean acidification, and increased frequency and severity of storms are all impacts directly related to climate change that put the viability of the shellfish industry in jeopardy. We need swift action and sound, scalable solutions.

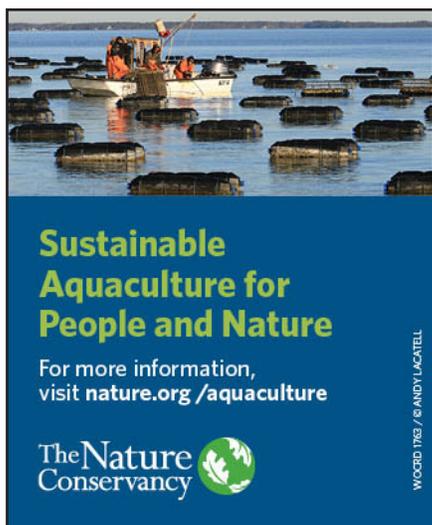
And so, what started in 2018 as a partnership among seven U.S. shellfish growers and The Nature Conservancy, has now grown to include 170+ shellfish farmers, hatchery operators, wholesalers, retailers, and restaurateurs across 20 U.S. states and Canada. We are the **Shellfish Growers Climate Coalition** (SGCC), and our membership supports bipartisan, actionable climate policy that will help change course and preserve our businesses for future generations.

WHAT IS THE COALITION DOING?

- **Sharing our stories** - Over the past three years, we've found that people listen when coalition members share their stories. We launched our Heard on the Half Shell audio campaign at UN Climate Week to collect personal audio stories about climate change and the shellfish industry; these stories are being shared broadly shellfish consumers and policymakers, raising awareness and support to ensure the sustainability of our industry. Visit nature.org/halfshell to listen and participate.

- **Engaging with policymakers** – Every year, the coalition meets with federal policymakers in Washington, D.C. and on our farms, where members of Congress learn firsthand about climate impacts on our businesses. In addition to a virtual visit to Capitol Hill this spring, we are working directly with the Biden Administration and the new Congress in support of bipartisan action to reduce carbon emissions, increase incentives for renewable energy, and improve scientific understanding of climate impacts on shellfish.
- **Reaching consumers directly** – The more people understand how climate change is impacting food they love, the more they will help us secure the policy changes we need to remain viable. So, we have developed a suite of civic engagement materials that can be used by any coalition member to share information with their customers about climate impacts and what they can do to help.
- **Enhancing our online presence** – This September, we unveiled our new Instagram channel, [@shellfish4climate](https://www.instagram.com/shellfish4climate). In the first two weeks alone, we garnered 200 followers—and we've watched that number steadily grow to 500+ in recent months. To keep this momentum going, we encourage you to follow us, and we will follow you back! Our Instagram channel also complements our nature.org/shellfish4climate website, the primary location for public information and resources related to the coalition.

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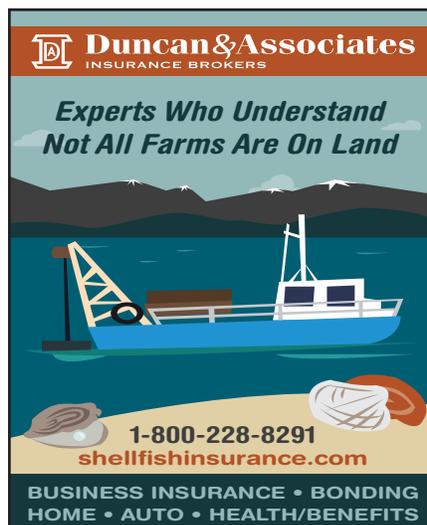


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- **Connecting coalition membership** – Our **Climate Currents** newsletter is published quarterly and is the best way to get the latest and greatest updates from our coalition and its members. Email sgcc@tnc.org to join our mailing list and stay up to date!

WHAT ARE OUR MEMBER BUSINESSES DOING?

“The Alutiiq Pride Shellfish Hatchery has been operating a Burke-o-Later for continuous monitoring of its incoming water since 2013. The staff also processes discrete samples from 15 partners throughout Alaska. Most recently, we have conducted exposure studies on littleneck, butter, and razor clams and will be examining pink salmon this spring. Our next step is to complete a comprehensive water quality lab for nutrient sampling, phytoplankton monitoring, and harmful algae blooms.”

Jeff Hetrick, Alutiiq Pride Hatchery
jjh@seward.net

“Over the course of the year, we’ve pivoted from being a wholesale business to relying primarily on retail sales. We’ve been so encouraged by the response from our community and hope that one of the lasting impacts of the pandemic is that consumers feel more involved in their local food systems—especially shellfish farms. As we update our business model, we’re working on new sustainability challenges, and after much research, successfully sourced a curbside-recyclable insulation material for our outgoing boxes (contact justin@hamahamaoysters.com if you’d like to learn more). We’re also examining our operations and outreach from a social justice perspective and look forward to doing our part to increase diversity and inclusion in the climate movement.”

Lissa James Monberg, Hama Hama Company
lissa@hamahamaoysters.com

“As for everyone in the food and hospitality sector, 2020 has been incredibly challenging for Hog Island. The summer fire season in Northern California (including the Woodward fire right in our own backyard of Pt. Reyes National Seashore) was devastating, and the smoke alone impacted our retail business for weeks. Changing climate is now upon us by land and by sea. We are fortunate that our Congressional delegation (especially Rep. Huffman) is already hard at work on climate issues, so we are also focusing on two other strategies for climate action: science and customer engagement. Our science program is working with academic partners to better understand how things like ocean acidification, warming, and hypoxia impact our farm and hatchery. We are also exploring ways to better message the critical relevance of climate policy directly to our bivalve-loving customers, possibly through point-of-sale signage. With 2020 almost in the rear view, we are hopeful about the prospect of economic recovery and more cohesive climate policy in 2021. But we also recognize that lasting progress is a long-term project, and we know there is more to do.”

Gary Fleener, Hog Island Company
gary@hogislandoysters.com

WHAT’S NEXT?

Every single story from a farmer about climate impacts reminds us of the importance of swift climate action. This is about what the future holds for family livelihoods, small businesses, and our coastal communities, and we need more voices. If you are interested, we hope you will join us. It doesn’t cost a thing, and you can do as much or as little as your time allows—the important thing is playing a part. If you want to learn more, please reach out to any one of us. Time is of the essence.

Sally McGee, The Nature Conservancy
smcgee@tnc.org

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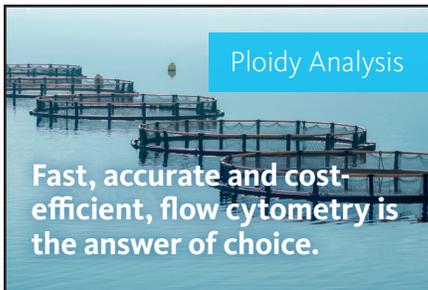
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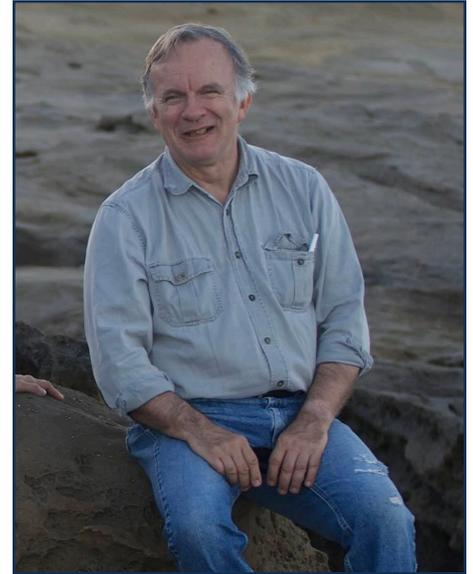
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Remembering Glenn Van Blaricom

by: Joth Davis, Baywater Inc.

A friend of the West Coast shellfish industry, Dr. Glenn Van Blaricom, Professor Emeritus at the University of Washington, passed away on Dec. 24, 2020 following a battle with thyroid cancer. We will miss Glenn's insight, passion, and intellect. As an industry focused in part on our need to continuously prove that shellfish aquaculture is a sustainable means to produce high quality seafood from the sea, Glenn's careful, well-designed research on the ecological effects of geoduck culture significantly moved the needle of public opinion on the effects of geoduck farming. Glenn lectured hearing examiners and the public in general, all the while loyally updating the shellfish aquaculture community of his definitive work on what geoduck culture is and what it is not.



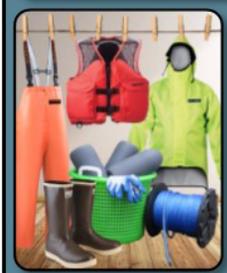
Truth mattered enormously to Glenn and his research demonstrated the right way to make that point. I was impressed by Glenn's approach during Ph.D exams where he might query the student to describe the contribution of some famous zoologist, long dead and mostly forgotten, but someone with a major impact in the candidate's field. That students usually fumbled their response is testament to the breadth and reach of Glenn's intellect, but also highlights his interest in applying his gentle humor and wisdom to simply remind students of the importance of understanding that the contributions of most scientists are a result of simply learning and applying the basics to a new problem.

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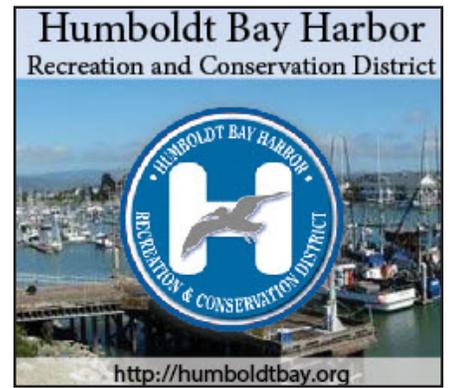


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He had a wonderful ability to apply his expertise in a range of fields to practical problems – such as showing that the effects of harvesting geoduck on intertidal beaches are on a microscale and vastly insignificant compared to normal windstorms experienced all the time during winter in the Pacific Northwest – in other words, an insignificant impact in the big scheme. Glenn was remarkably diverse in his academic interests – from abalone restoration in the Channel Islands, to kelp forest conservation, to the great whales, and much in between. What Glenn touched he would often take on. His range of academic interests is proof of this. Few scientists today have the range of expertise that was the hallmark of Glenn's career. He was a consummate student of natural history with a passion for conservation. He also had a soft spot for working on problems facing the shellfish industry – this will remain the touchstone in my mind for his life and contributions.



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First Ever Compostable Shellfish Packaging Material Launched in North America

by: Jesse Fortune, Formutech Inc.

Date: December 2020

The notion that shellfish farmers are environmentally conscious is an understatement. Shellfish production itself provides significant benefits to the environment through carbon sequestration, water quality improvements and habitat restoration. Aquaculturists observe firsthand and are increasingly impacted by warming sea temperatures, ocean acidification, pollution, and litter in their growing sites. A healthy environment is crucial to the way of life for sea farmers and this creates a unique culture within the industry that acknowledges the utilization of our natural resources for food production, while ensuring sustainability of all aquatic animals and their habitat.



Shellfish farmers seek to support the environment through the choices they make; whether it be the implementation of best farming practices, incorporating green technologies, high efficiency motors, or the three important R's in reduce, reuse, and recycle.

Adopting a green approach is not always an economical business decision and other times there may be no better alternative than what is currently on the market. Packaging is an area where both of these limitations exist as the goal is to provide a low cost solution where consumers see value for their money in the product instead of what it is shipped in. For this reason, single use, disposable materials are often chosen as they are the most convenient and cheapest method.

Direct sales have been steadily rising over the past number of years and this has been expanded even more with the COVID-19 pandemic. Many companies are now relying on ecommerce sales to drive a much larger portion of their revenue. As a result, more small packaging formats are required and processors have been asking for alternatives to reduce the use of Styrofoam and plastics.

Lucciano Cocci, an Italian supplier focused on shellfish processing equipment and packaging materials are already a significant supplier for the North American market. At the request for their existing customers, the company was asked about plastic alternatives and went running with the idea. After more than two years of development, the first ever food grade, compostable mesh packaging material for shellfish products was launched in November.

Continues on next page...

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In a statement, company Director Giacomo Cocci explained:

“What we have developed is a material made with a compostable polymer that can be broken down by bacteria, sunlight and other natural physical agents, into simple chemical compounds such as water, carbon dioxide and methane. Legislation establishes limits and to be defined biodegradable, a product must decompose by 90% within 6 months. To be recognized as compostable, the material must not only be biodegradable but also disintegrable to form a natural fertilizer and it’s decomposition process takes place in less than 3 months.

Our certification, according to EN13432 and has been subjected to a disintegration test under composting conditions on a laboratory scale according to ISO20200 “Plastic materials - determination of the degree of disintegration of materials of plastic material under simulated composting conditions in a laboratory scale test”, reaching complete disintegration in less than 90 days. In light of these results, the certifying body TÜV Austria has confirmed the achievement of the OK COMPOST INDUSTRIAL certification.”

The product looks and acts just like the other mesh products in the marketplace and is available in a variety of colors including white, blue, black, red, green, and yellow. It is well suited for the wet damp environment where shellfish is packaged and the degradation characteristics do not occur until well after the usable life of the product held within.

Cocci is now finalizing the certification process for a compostable tag and hope to have it launched in early 2021.

Formutech is the North American agent for Lucciano Cocci and can be contacted for further inquiries at info@formutech.ca or toll free at (855) 599-0099

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Coveting Clams (And Clam Chowder) On Henry Island

by: Corinne Whiting, 1889 Washington's Magazine (excerpt)

Date: December 28, 2020

There's no denying San Juan Island is touched by something special, and visiting Westcott Bay Shellfish Co. merely elevates the experience. On this family-owned aquaculture farm, a hardworking team sells clams, oysters and mussels raised on their tranquil tidelands. Since 1978, shellfish have been farmed here, and the story of its current owners—Andrea and Erik Anderson—is a winding, charmed tale.

The couple visited the farm to purchase oysters for more than thirty years while spending summers on Henry Island. They started dating during freshman year at the University of Washington and often joked they'd love to work at the oyster farm. Fast forward several decades, when they boomeranged back to Henry Island to build a home.

When they learned the farm property was being put up for sale as a home site, they decided to buy the land. "We realized the farm would forever be gone," Anderson said, "so Erik and I looked at one another and said, 'How hard can this be?' In September 2013, we signed the purchase papers for the land (the farm was long gone and hadn't been planted with shellfish for at least a decade), and started learning everything we could about farming oysters, clams and mussels."

Over the next four years, they worked tirelessly to restore the property, wanting to honor its community legacy and carry on a philosophy of environmental stewardship. While scrambling to figure things out, they cherished early guidance from Frank Raue and Mark Billington, who worked at the former shellfish farm for nearly thirty years. "The only paid employees in those early days were



Photo credit: Westcott Bay Shellfish Co

Frank and Mark," Anderson said, "but any family or friends who visited would be put to work mending old nets or planting and harvesting shellfish in exchange for oysters, clams, mussels and a day of fun and camaraderie."

"Clams are the easiest of our shellfish to grow," Anderson explained, "as we don't have to do anything during their three-year growth until they are ready to harvest." The harvesting, however, proves incredibly labor intensive. Workers must get down in the mud to dig by hand, later lugging 50-plus-pound totes back to the dock, where the harvested clams are sorted and cleaned. They are then placed in upper tanks, as water from the bay is continuously pumped in to purge any remaining mud and sand.

Read the full article - [HERE](#)



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Aw, Shucks: A Love for Oysters is Growing in Juneau

by: Dana Zigmund, Juneau Empire (excerpt)
Date: January 10, 2021

Capital city oyster lovers are helping to keep an oyster farm near Bridget Cove afloat and fueling new demand in the process.

While addressing the Greater Juneau Chamber of Commerce on Thursday, Meta and Alec Mesdag, owners of the Salty Lady Seafood Company, shared an overview of their experience and expressed gratitude for the community that has embraced their product.



Photo credit: Meta Mesdag

“How lucky we are to live in a community that supports small businesses. They want to see us thrive” Meta said.

Earlier this year, the pandemic threw a wrench in their plans.

“We were approved to begin sales during the early lockdown period,” she said explaining that they needed to pivot from their plan to primarily sell their oysters to restaurants.

“We moved our focus to direct sales from our website,” she said, noting that about 90% of Alaska’s farmed oysters are purchased by restaurants.

Read the full article - [HERE](#)

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Study Pins Toxic Algae Blooms at Oregon's Southern Border on Climate Change

by: Erik Neumann, Jefferson Public Radio (excerpt)
Date: January 2, 2021

New research from West Coast oceanographers provides insight into the cause of toxic algae blooms that caused shellfish closures and marine mammal deaths near the Oregon-California border.

The study, **published in the journal *Frontiers in Climate***, shows climate change and a 2013-2015 Pacific Ocean heatwave, often called "the blob," have together increased the growth of toxic algae off the coastline from Cape Mendocino, California to Cape Blanco, Oregon.

"The 2015 warm anomaly populated or seeded this new site, which now is a new source of toxin to contaminate shellfish on our coast," said Dr. Vera Trainer, a research oceanographer at NOAA's Northwest Fisheries Science Center and the study's lead author.

After 2015, there were persistent clam and crab closures on the Northern California and Southern Oregon coast, Trainer said. The research confirmed the warm water temperatures seeded algae that were protected from ocean currents and stored in sediment at this new hotspot off of Trinidad, California.

Pseudo-nitzschia algae produce a neurotoxin called domoic acid that are consumed by filter-feeding shellfish. In addition to shellfish closures in the region, the toxins pose a threat to marine wildlife like sea lions, sea otters and whales. Sardines and anchovies retain high levels of the toxins though, Trainer says, they don't seem to be affected.

The marine heatwave that caused the algae growth was five times more likely to have occurred from human-caused climate change than natural influences, according to a related study cited in the paper.

Now that the researchers understand the cause of the algal blooms, Trainer and her colleagues are working with coastal managers to create harmful algal bloom bulletins to provide early warnings to the public and allow for more targeted marine fisheries closures, rather than widespread restrictions.

"We can provide a short-term forecast, sort of like a weather forecast, that projects out three to five to seven days what the risk is for the harmful algae to come to the coast," Trainer said.

Read the full article - [HERE](#)



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Can Drones Help to Reduce Oyster Mortality?

by: The Fish Site (excerpt)
Date: January 7, 2021

A \$1 million project that aims reduces losses in the shellfish aquaculture industry through the use of unmanned vehicles is underway at North Carolina State University.

The researchers plan to use small fleets of unmanned vehicles to monitor water quality in areas that are difficult and dangerous for people to access.

It's a step, they say, that could help the state's shellfish farming sector grow into a \$100-million-a-year industry by 2030.

The researchers say the project will provide valuable data to inform management decisions that are key to unlocking sustainable growth of nearshore production of shellfish in North Carolina and beyond.

The four-year project was funded in late 2020 by a \$1 million grant from the US Department of Agriculture's National Institute for Food and Agriculture through the multiagency National Robotics Initiative 2.0.

It is being led by Sierra Young, an assistant professor in the Department of Biological and Agricultural Engineering. She says

that the team is focusing on water quality because it has important implications for the safety of consumers' food and for producers' profitability.

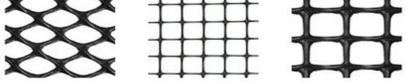
Bacteria and other pollutants carried by stormwater into the ocean can cause nearshore producers to halt their harvests temporarily, until the bacteria reach safe levels. These closures are estimated to cost producers 25 percent of their average annual income.

"We hope to automate water testing and sample collection by creating a data-driven process that makes the window (of closure) as small as it needs to be," Young explained in a press release issued by North Carolina State University.

The researchers plan to develop computer models that let them know which areas of an operation are most likely to become bacterial hotspots – places "where we can predict there might be higher levels of bacteria or other water-quality parameters of interest, such as dissolved oxygen or pH," Young said.

Read the full article - [HERE](#)

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Calendar of Events

January

- 12-13: NACE & ECSGA Virtual Tradeshow
- 15: Ecosystem Services Photo Contest Submission Due
- 19: PCSGA Board Meeting via Conference Call
- 19-21: Alaska Shellfish Growers Association Virtual Conference

February

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

.....

Other Noteworthy Industry News

[Repurposed: Adding value to aquaculture via recycling](#) - Global Aquaculture Alliance

[Environmentalists Buy Surplus Oysters to Boost Shellfish Industry and Restore Imperiled Waterways](#)
- Capeandislands.org (NPR)

[USDA grant awards Maine company developing innovative oyster growing methods](#)
- The Center Square

[Partnership puts pressure on DNR for expansion of Dabob Bay Natural Area](#) - The Leader (Port Townsend)

March

- 1-2: 27th Conference for Shellfish Growers - Virtual
- 15: Ecosystem Services Photo Contest Submission Due
- 23: PCSGA Board Meeting via Conference Call



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PCSGA Grower Enrichment and Development Fund

The fund provides financial assistance to members of PCSGA for expenses related to educational opportunities, experimental practices, and attending PCSGA events such as the Annual Conference or Walk the Hill in Washington, DC

Apply for funds at: www.pcsga.org

Save the Date! **75th Annual Shellfish Conference & Tradeshow**
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