

Terra Bowling ([00:01](#)):

Okay. Good afternoon everyone. Thank you so much for joining us for our 2026 webinar series. My name is Terra Bowling and I'm a senior research attorney at the National Sea Grant Law Center. Today's presentation we're going to hear from three of our summer legal interns, Amy Armata, Jordan Young, and Tess Bradley. But before we begin, I just wanted to go over a few housekeeping things. We have everyone on mute right now to cut down on the background noise. Feel free to use the chat if you have questions. We should have plenty of time at the end if you want to ask any questions then. If you have any technical issues, please feel free to message Lauren Fremin, who's the project coordinator for the National Sea Grant Law Center and the webinar host. And then I wanted to also let everyone know that the webinar is being recorded.

([01:02](#)):

We'll post it to our website in the next couple of days along with the transcript. Lauren will send out an email, so be on the lookout for that. So first up, for anyone in the audience who might not know about the Law Center, we were founded in 2002. We're housed at the University of Mississippi School of Law. We conduct legal research, education, and outreach for this wider sea grant network of 34 programs and their stakeholders. If you're interested in our work, please visit our website and also follow us on social media. So I want to get to our first presentation. I'm going to turn it over to Amy Armata.

Amy Armata ([01:49](#)):

Hi, thank you so much, Terra. I got the opportunity to work on coastal safety measures this summer, specifically tsunami preparedness workplace regulations and PFAS water contamination. You can go to the next slide, Terra. So a little bit about me. My hometown is Long Island, New York. I went to undergrad at Connecticut College. My major was international relations and I am now a rising 2L at New York Law School. Next slide. So my first research topic was the regulatory landscape of workplace safety training for tsunami hazards. Next slide please. Some background is Oregon's coast lies within the Cascadia subduction zone creating significant earthquake and tsunami risk. Surveys found that businesses want to improve preparedness, but are concerned about regulatory burdens. An Oregon legislator is considering legislation requiring emergency preparedness training for private businesses in tsunami inundation zones. So my work and research objective this summer was evaluating existing federal and state workplace emergency preparedness requirements to determine whether there's a model framework that already exists.

([03:14](#)):

Can you go to the next slide? My first question that I was researching and answering is whether under the Federal Occupational Safety and Health Act's emergency preparedness standards, does a private sector hospitality employer have a mandatory duty to implement an emergency action plan and conduct safety training when the workplace is located inside a designated coastal tsunami inundation zone? The answer here was no. Federal OSHA standards are triggered by specific industrial hazards such as fire or chemical hazards rather than geographic proximity to natural disasters. However, with that being said, the agency provides many non-binding resources to encourage private sector hospitality employers to use safety plans. Some of these links are linked on this slide such as the implementation checklists and consultations that OSHA will give to private businesses. Next slide. The second question that I researched was similar to the federal question, but on the state level.

([04:27](#)):

So this was under Oregon's administrative rules and Oregon's revised statutes. Do private sector hospitality employers have a mandatory duty to implement natural disaster preparedness plans or conduct workforce training when the workplace is located inside a designated coastal tsunami in an inundation zone? Similarly, the answer is no, that under Oregon's administrative rules and Oregon's revised statutes, the state requires the passive distribution of tsunami information to guests and the maintenance of general

safety committees rather than require trainings. However, with this being said, Oregon's Department of Emergency Management and the State Department of Geology and Mineral Industries are required to develop these tsunami warning information and evacuation plans for distribution to transient lodging facilities such as hotels and motels. But as mentioned, this is more of a passive distribution that's required of these agencies of the state rather than a requirement on the private sector businesses. You can go to the next slide.

(05:40):

Then my final question regarding the tsunami preparedness was to see if any other tsunami prone states have a model that could be used in Oregon. So the question here I asked was do Washington, Hawaii, or Alaska impose mandatory natural disaster preparedness or workforce training requirements on private employers based on their location within coastal tsunami hazard areas that could serve as an approach for proposed Oregon legislation? Similarly here the answer was no, that none of these three tsunami prone states impose geographically triggered workplace preparedness training requirements on private sector businesses operating within coastal tsunami hazard zones. Instead, all three, Washington, Hawaii, and Alaska rely on general workplace safety regulations that are voluntary emergency preparedness guidance and localized emergency management initiatives rather than state mandated disaster training for private employers.

(06:44):

This tsunami research will be completed and published on the National Sea Grant Law Center website later this summer and the findings will inform an Oregon Sea Grant white paper in September 2026. You go to the next slide. My second research topic this summer was PFAS contamination. You go to the next slide. First, what are PFAS? Some background is that PFAS are the substances more commonly known as forever chemicals. The names are listed on this slide, but I'm not sure my pronunciation would do them justice. PFAS can be found in items such as non-stick cookware, dental floss, et cetera. And these chemicals can decrease our immunity and increase our risk of cancer, birth defects, liver, and kidney disease. Two common PFAS compounds are PFOA and PFOS and EPA designated PFOA and PFOS as hazardous substances in 2024. You can go to the next slide. So my research was a case study, New Mexico versus the Department of Defense.

(07:58):

The background here is that New Mexico's groundwater was contaminated by Canon and Holloman Air Force bases from firefighting foam. This contamination impacted local agriculture, wildlife, and public health. There was a dairy farmer who had to euthanize over 3,000 of their cows due to this contaminated water. And additionally, Lake Holloman, which used to be a bustling tourist area, closed because of PFAS contamination. In 2019, New Mexico sued the Department of Defense after the contamination spread beyond just the military bases. You can go to the next slide. This case has national implications. In 2025, it was designated as a bellwether case, meaning that its outcome will gauge the future accountability and financial liability for more than 15,000 federal PFAS contamination cases. This case can establish a model for recovering cleanup costs from federal facilities. It could demonstrate how states can use parallel state and federal litigation to compel environmental cleanup, recover response costs, and encourage negotiated solutions.

(09:12):

Next slide. So New Mexico's dual litigation strategy is first in state court. When they first sued the Department of Defense in 2019, it was for the violation of New Mexico's Hazardous Waste Act.

(09:30):

This would require the military to clean up contamination in accordance to the state safety standards under the Hazardous Waste Act. Additionally, the federal component of this case is under the Comprehensive Environmental Response Compensation and Liability Act, also known as the Superfund

Act. In 2024, due to the EPA's classification of PFOA and PFOS as hazardous substances, the case took on this federal component and under the Superfund Act, the federal government would be liable for cleanup costs. Next slide. A little bit more on establishing this federal liability under Superfund is to recover costs. New Mexico must prove that the Department of Defense is a responsible party. PFAS was released from the Air Force bases. The state incurred response costs. The cleanup complied with the national contingency plan and that costs were necessary and consistent with the Superfund Act. Most recently in 2026, there's been developments to this case where the Air Force has agreed to fund New Mexico's groundwater sampling.

(10:43):

And this agreement actually strengthens New Mexico's evidence supporting its Superfund claim in the litigation that's still ongoing. Next slide.

(10:54):

In addition to this New Mexico litigation, there's been recent PFAS regulatory developments in drinking water. In 2026, the EPA proposed extensions for public water systems to comply for public water systems compliance deadline from 2029 to 2031 for PFOA and PFOS. This is intended to help small and disadvantaged water systems to address funding and staff and infrastructure challenges. The second proposal for the EPA in 2026 is for PFAS rescissions. So the proposal is to rescind the current federal standards for the four substances listed here on the slide. This is purely based off of procedural concerns and how the regulations were originally put in place rather than it being based on new health issues or science that's come about. And so there is a public comment period for both of these proposals through July 20th, 2026. Next slide.

(12:14):

To wrap up, these projects illustrate the two sides of PFAS law. The New Mexico case shows how litigation can be used to hold federal agencies accountable for contamination while the EPA's proposed drinking water rules demonstrate that PFAS regulation continues to evolve. Together they highlight the important role that courts, regulators and states will play in shaping future PFAS policy. And you can find more information on the New Mexico case in the latest sandbar edition and the EPA's proposed rules in the law center's blog post on the website. Next slide. Thank you so much for your time everyone today and thank you for everyone who supported my research and internship. I really appreciate it. And I will hand it over to Jordan.

Jordan Young (13:08):

Thanks Amy, and thanks everyone for being here. So this summer I partnered with the Oregon Sea Grant to do some research on barriers and opportunities within the state's mariculture permitting system. Next slide. And before we get into that, a little bit about me. I'm also from New York. I'm from Northern New York in the Adirondacks from Tupper Lake. I attended SUNY Oswego where I received my undergraduate degree in public relations, and I'm currently a rising 2L at Vermont Law and Graduate School concentrating in food and agricultural law. And what was really exciting for me about this opportunity this summer is it combined all my personal areas of interest in law, including aquacultural law, coastal development, admin law, food law and policy and tribal law. So it was a really great opportunity. Next slide.

(14:02):

So to get into my research, like I said, I research mariculture barriers and opportunities in Oregon by looking at other states and also Oregon as a whole. Next slide. So this started with an Oregon placement week for me. At the beginning of June, I flew from the East Coast to Newport, Oregon, where I was there for a week on the coast doing some site visits to oyster farms, shellfish hatchery, and a land-based seaweed farm. I also met with some of the Oregon Sea Grants program partners for discussions, including

the Oregon Department of Fish and Wildlife, the Oregon Department of Agriculture, the US Department of Agriculture, specifically their Pacific Shellfish Research Unit, the Oregon's Department of Land Conservation and Development, the Central Coast Food Web and Oregon State University Researchers. And I'd also like to give a big thank you and shout out to Alex from Oregon Sea Grant for coordinating the visit and discussions and just being extremely helpful over the summer research process.

(15:07):

Next slide.

(15:10):

So I was presented with three questions this summer. The first being, are there redundancies in Oregon's shellfish plat permit application process? And what I found was that generally, no, there weren't really too many redundancies. However, there were complications that can arise through the process. So for example, there was an application component that must be sent from the applicant to multiple agencies, the same application component. For example, the US Army Corps of Engineers joint permit application, the applicant would be required to send it to multiple agencies for review and this could create a little bit of a burden on them. And as you can see from the diagram, Oregon shellfish permitting system is very complex and it's a multi-step process. There's not a single mariculture agency responsible for aquaculture permitting in the state or shellfish while the Oregon Department of Agriculture is the beginning and endpoint.

(16:13):

It can also go through 10 other agencies including federal, state, and local agencies and government departments. So this can create a really burdensome permitting process on both the applicant and the agencies because of inter-agency communication and just the actual process for the applicant. Next slide.

(16:36):

So for the second question, I was asked how do other states handle modifications to their existing mariculture leases? And what I found that generally there wasn't a standardized lease modification process across the state or across the country. Each state has developed its own approach to this and I wanted to do a very wide overview of the country as a whole. So I looked at Alaska, California, Florida, Maine, Virginia, and Washington. And I did find some commonalities across the country between the states, and these included a dedicated application webpage for modifications. There would also be a standalone modification application that's separate from the initial plat lease application. And any modification applications typically had a fee associated with the application that could range from \$50 to \$200.

(17:32):

Alaska's a little bit different in that regards in that they have a shifting fee system. So depending on what type of modification the applicant wants to make on their lease, the fee would shift with that. And then there was also generally established frameworks for the agency reviews for modifications within all the states. Where the approaches kind of differed was at the state regulatory approach. Some states codified their lease modification process through the legislature while others have relied solely on agency policy and practices. And even with that, the agency review processes could be different between the states. So some states conducted only internal review within a single agency while other states had both the internal review element and external review element, which could be like a public comment period or other agency comment period. Next slide.

(18:33):

Some states also differed in that they offered online application portals and tracking for modifications while other states relied on traditional paper-based approaches. So the applicant would print out the application, fill it out, and then either mail it back to the agency or drop it off at their location. And also Oregon stands alone in that its mariculture leases, its shellfish plat leases are perpetual, meaning that

there's no end to them where every other state in the country has a finite end to them. And these can typically range from 10 to 25 years. So the takeaway from all this was that while some states share common administrative elements for modifications to their mariculture leases, they can differ significantly in the review requirements, statutory authority and application experience for the lease. And whatever decision Oregon chooses for modification to leases, there's a variety of methods and states to look at for comparison.

(19:40):

Next slide.

(19:43):

And for the third and final question, I was asked what would need to change to establish a mariculture pilot program in Oregon? And to answer this question, I first created a foundation using the National Sea Grant Law Center State Pilot Program Explorer webpage. So anyone can go onto the explorer to look at state's aquaculture pilot programs and it will showcase the state's program, their policy goals and the design frameworks on the website. And currently the states included on that are Florida, Maine, Mississippi, Rhode Island, and South Carolina. And then I've also included a QR code that you can scan to go directly to the website, or there's also the website URL at the bottom of the slide. Next slide.

(20:32):

So using that as a foundation, I began mapping out the barriers and opportunities within Oregon's mariculture culture systems at the moment. So for the barriers, the biggest one would be the cultivated species. So after June 1st, 1997, only oysters can be commercially cultivated on shellfish plot leases. Prior to 1997, oysters, clams, and mussels could be commercially cultivated, but then the legislature changed that to be only oysters. So when that happened, a lot of the regulatory language changed to be more restrictive on mariculture policies, and especially with the commercially cultivated aspect of that. So the plots can only be used for commercial cultivation rather than subsistence farming or anything like that. Additionally, the plot site locating, it is on the prospective applicants to locate a new plot lease site within the permissible estuaries. There's no predefined or pre-outlined lease sites available. So that's another burden and barrier on the applicant.

(21:43):

And along with that, there's been low application rates year after year, which may dissuade any implementation efforts to change the mariculture framework for these pilot programs. There's also limited estuary space available for cultivation of shellfish or any other types of aquaculture. And this is typically due to environmental concerns in Oregon, including eelgrass. And then also there's limited shellfish growing areas. Next slide.

(22:16):

So going off of those barriers, there are opportunities within Oregon to establish these pilot programs. So there's always the opportunity to expand commercially cultivated species. In Oregon, there's growing interest to allow for more harvestable species for plants and animals, including abalone, clams, crab, kelp, mussels, and seaweed. There's also an opportunity to use these pilot programs to strengthen governmental relations with Oregon's tribal nations. So currently the Oregon Department of Fish and Wildlife has a working relationship with some coastal tribal nations, and this would be a great opportunity to expand on those. There's also the opportunity to appoint an Aquaculture Stewardship Council. So there's been a couple of recent studies that have suggested the creation of our Stewardship Act Council within the state. And this council could be responsible for developing the state's aquaculture framework, which would allow for greater inter-agency cooperation, development, and transparency within the already complex system.

(23:23):

Along with that, there's also the opportunity to appoint a state aquaculture representative. At the moment, there is a federal regional representative overseeing Oregon and Washington aquaculture, but this would be an opportunity to appoint a Oregon-specific public-facing rep who would be knowledgeable in the state's mariculture permitting system and they'd be able to provide perspective to program applicants throughout the process, which would alleviate some of the burden on the agencies involved. Next slide.

(23:58):

So then to close it out, I created a couple possible framework examples that the state could look at. Ultimately, it would be up to the state to determine what these pilot programs would look like, but I just wanted to provide a couple examples. So for the first one is a mixed-use leasing program. So the policy goals for this program would be to partner with Oregon's tribal nations to promote mariculture stewardship, expand some of the work on native Olympia oyster restoration efforts, and provide coastal communities with subsistence opportunities rather than just the commercial harvesting, which is currently implemented. And then for the elements and details for this program, the leasing would be available for non-commercial purposes. So for coastal or tribal subsistence opportunities with the caveat that there could also be some commercial use thrown in there as well. And then also another element would be to incentivize seeding of native Olympia oyster beds.

(25:01):

Olympia oysters tend to grow slower than other commercially cultivated species, so incentivization would be necessary. And then also there would have to be some restriction on the sales of harvested from this mixed use lease as the primary purpose would be to expand restoration and subsistence opportunities. So the sales would have to be restricted. And then also if part of the efforts are restorative and subsistence, there would also be restrictions placed on what type of gear is used in the harvesting process. And these would also have a restriction on the lease length so they wouldn't be perpetual like the regular commercial cultivation leases. And then there might also be an eligibility requirement thrown in there for either coastal communities or just Oregonians as a whole. And then looking at the next one, so this would be a commercial viability program. So the policy for this would be to allow for viability testing of either species or gear types in estuaries.

(26:15):

And this would also be an opportunity to generate a mariculture social acceptance within the state. There's been recent studies that have shown that two-thirds of Oregonians support aquaculture within the state, but there's obviously room for some improvement with that. So this would be a great opportunity to do that with new species or harvesting methods. And then this would also be a goal of this program would be to expedite the leasing process for the program itself so it wouldn't have to go through the regular application procedure that can take well over a year for commercial plat site leasing. And some of the elements for this would be the time constraint. So if the harvesters or farmers are doing viability testing on either the site itself or the species, there would have to be a time constraint with that. There would also be some protections in place for the site that they chose so that other growers or harvesters couldn't come in and swoop the location from them.

(27:21):

And then there would also be restrictions on the size of the viability testing area within the estuary. So if you're only doing testing, you wouldn't need the entire plat to do that. And then this would be also a great way to implement the new species and cultivation methods to allow for that within a restricted setting. And finally, it would be an opportunity to simplify the application process. So other states generally just have an initial approval and then constant monitoring of the viability programs. So that would be a great opportunity to simplify the complex permitting system that's in place at the moment. Next slide. So my research and all the other research on the Oregon Sea Grant will be available later this year on the National Sea Grant Law Center's website. And I just want to thank you all for attending this and I will pass it over to Tess.

Tess Bradley (28:29):

Thanks, Jordan. Hi everybody. Thank you all for joining us this afternoon to hear a little bit about our summers at the Law Center. My name is Tess Bradley and today I'm going to be discussing the European Green Crab and just sharing my research on the regulatory status of the green crab in different regions of the United States. But first I'll share a bit about my background before diving into that research. Thank you. I am currently a rising 2L at Vermont Law and Graduate School. I was born and raised in Luddington, Michigan, which is a small town on the west side of the state. I'll do the hand thing. It's right here. I studied environmental sustainability at Michigan State University and I did love the environmental science side of things, but I didn't quite feel satisfied after graduation. So I decided to go to law school and pursue a career in environmental law, which is how I ended up at VLGS.

(29:24):

Then my interests are somewhat all over the place at this point, but Great Lakes Law is still at the top of my list. You can go to the next slide for me, Terra. Thank you. So now getting into my research, like I mentioned earlier, my main focus this summer was researching the regulatory status of the European green crab in the US. And before I dive into the regulatory side of things, I'd just like to share a little bit of background. So green crabs are native to the shores of Europe and Northern Africa, but they started cropping up on the East Coast of the United States in the early 1800s. The general consensus is that they were transported to the US through ballast water on ships. And so the Law Center is just looking to explore the regulatory differences between harvesting and selling these crabs as bait and harvesting and selling these crabs for food.

(30:14):

And for my research, I was specifically focused on the regulations pertaining to the sale of green crabs as bait. You can pop over to the next slide for me, Terra. Thank you. So just a quick overview. Since our introduction, green crab populations have really exploded in multiple regions of the United States. We're specifically looking at the New England area, so mid-Atlantic states and the West Coast. Each of these regions have unique fisheries that are economically vital and culturally significant. So when it comes to protecting these fisheries from aquatic invasives, the regulatory approaches can vary pretty drastically from region to region and even state by state. And this variation is partly attributable to the fact that there's no federal level recognition of green crabs. They're not listed as an invasive species under the Lacey Act. So with these regional variations, it helps me to conceptualize the regulatory landscape by sorting the different approaches into three buckets, we'll call them.

(31:14):

So the first approach is to classify the green crabs as invasive at the state level and attach pretty strict regulations to the handling of live green crabs. This is the approach taken almost unanimously by the West Coast and as well as New York State. The second approach is a little more relaxed. It's to allow for green crabs to be sold under general commercial fishing licenses and regulations. And many New England and Mid-Atlantic states do take this approach. These states don't specifically regulate the harvest and sale of green crabs, but they do allow for it under those general licenses. And then finally, the third main approach is to allow green crabs to be sold under licenses that are specific to green crabs. And there are a handful of New England states that take this approach. We can go a bit more into that on the next slide.

(32:05):

Thank you. So just going a little bit more in depth, we can look at some different regional and state level approaches to regulating the harvest and sale of green crabs. In New England, green crabs have been hanging out for over 200 years. They're pretty well established and most states have come to terms with the idea that green crabs are there to stay, but there's no generally agreed upon management approach in New England. So that's partly why the regulations vary so significantly on a state by state basis. Also, I

want to make a disclaimer. We were discussing this yesterday on the Law Center team. I know New York is not technically a New England state, but for purposes of this presentation, we're just going to keep it right in the New England box. So if everybody can just roll with that, I would super appreciate it.

(32:48):

So starting from the top, both Connecticut and Rhode Island allow for the commercial harvest of green crabs under general licensing, like that bucket we talked about earlier. New York does list green crabs as invasive and regulates them pretty strictly, but interestingly enough, it still allows for commercial green crab harvest under general licensing. Maine different bucket has a specific license for the commercial harvest of green crabs and Rhode Island actually does as well. And the Rhode Island license is only available for residents. Massachusetts does not require a commercial permit to harvest green crabs, but does require something called a letter of authorization. This is a letter that's issued by the Massachusetts Department of Marine Fisheries, and it sort of acts as a commercial license by allowing anglers to harvest green crabs commercially without a true license. And then New Hampshire does not have any licensing requirements when it comes to harvesting green crabs.

(33:43):

So if you'll notice there's no major through line in any of those bullet points, but I do just want to mention that the real through line when it comes to green crab regulations in New England is that in all of these states that we just talked about, some form of bait dealer license is required to sell green crabs if they're in bait. So shipping to mid-Atlantic states, there's generally just less information available on green crab regulations unless you count New York. And so the regulatory status is less clear, but there are some state level environmental agencies in some mid-Atlantic states that consider green crabs to be invasive. That doesn't necessarily mean that they can't be harvested under general licensing in those states. But again, there's just not much information available. And some of these agencies like in Maryland, for example, are encouraging anglers who catch green crabs to eat them rather than eat them as bait.

(34:36):

And shifting over to the West Coast, our final regional group, things look pretty different over here. Green crabs weren't detected until the late '80s and West Coast states have been pretty aggressive in the regulatory approach since the detection. For the most part, state agencies are focused on eradication efforts unlike New England area, which is more focused on population control and establishing new markets. So in Alaska, Washington, and California, possessing live green crabs is prohibited. There are a few limited exceptions for research purposes and transporting to an environmental agency. But like I said, those are pretty limited and generally it's prohibited to possess the live ones. Oregon does take a slightly different approach and it does allow for the recreational harvest of green crabs, but there is no commercial harvest allowed anywhere on the West Coast. So shifting to the next slide please. Thank you very much.

(35:35):

After I had a chance to dive into my research, I was able to travel to Portland, Maine for my placement week this summer, and I was able to take part in Green Crab Week. The idea behind Green Crab Week is for markets and restaurants to sell green crabs, get them on the menus, and engage with community members to raise awareness of the prevalence of green crabs and the issues that come with their being there. And in the middle of Green Crab Week, there was a summit in downtown Portland, the Green Crab Summit. And during that summit, we got to listen in on some really interesting panels with panelists who were discussing green crab market opportunities, products, green crabs restaurant menus and barriers and opportunities within the green crab movement in New England. But we also watched some culinary demonstrations and got to taste all sorts of different food and beverage products made with green crabs.

(36:27):

And between events, I was able to connect with researchers and agency specialists to pick their brains about green crab regulations. And the next day I attended a green crab derby at Wolf's Neck Center for

Agriculture in the Environment where myself and a few dozen other volunteers tried our hand harvesting invasive shore crabs. And funnily enough, we had a really hard time finding any green crabs that day. And at first we were all somewhat upset about that. And then we kind of looked at each other and thought, maybe this isn't such a bad problem to have so we can't find a bunch of invasive shore crabs. So it was a great problem to have. And we ended up harvesting about two and a half pounds, which is not very much, but they are pretty little. They're all different sizes and mostly hard shelves. We did find a couple of soft shelves, which was cool to see.

(37:15):

We also found one gravid female, which was a great find and overall had a great time. I do have some takeaways I'd like to share on the next slide.

(37:27):

Thank you. So since the summit, I've met with some project partners and other connections to solidify my understanding of the regulatory framework and the key regulatory challenges and opportunities when it comes to green crabs. In terms of challenges, confusion really seems to be number one. Every state has a unique approach like we've discussed and sometimes there are even regulatory variations within the state. So countywide bounty programs, many people are just unclear on what's legal and what's not, which makes sense because there just is so much variation. And there are concerns that this confusion can deter harvesters from getting involved with green crabs just because they're unsure about the legality of their harvest and sale. Also, just generally the lack of federal recognition contributes to the scattered regulatory landscape and differing regional goals makes it somewhat challenging to have any sort of collective effort when everybody is doing their own thing to help combat these invasive crabs.

(38:30):

It's also challenging to measure the success of population control efforts without any sort of stock assessment or standardized protocols for green crab data collection and monitoring. It seems kind of counterintuitive to take a stock assessment of an invasive crab because it's certainly not a fishery. But again, it's just somewhat challenging to measure the success of say a bounty program if you don't know how many crabs you're starting with in the first place. But all that said, we can shift to some opportunities. First and foremost, there does seem to be a lot of momentum behind the green crab movement. And that could just be my perception because I just came from green crab week, but it seems to carry over outside of the Portland area. I think that just providing regulatory clarity can help ensure that people who do want to be involved with green crabs know what the legal parameters are.

(39:22):

That's a really key thing. There are also abundant market opportunities for green crabs, particularly in the New England area. At the summit alone, we saw green crabs in so many different retail products. I'm trying to think. We saw compost, fertilizer, whiskey, broth powder, fish sauce, certainly some other things I'm forgetting at the moment. And we also saw green crabs being sold wholesale to restaurants across the country. So there's plenty of market opportunities out there. And in terms of incentives to incentivize harvesters to get involved with green crabs, bounty programs like we've touched on are one possibility. Other states have implemented bounty programs for different aquatic invasives like Lionfish in Florida is a pretty popular one. And some counties in Massachusetts actually have implemented their own bounty programs for green crabs. But again, that can kind of contribute to the confusion because people think it's a statewide program and it's not.

(40:22):

It's only in certain counties. There are also other legislative frameworks being used to target aquatic invasives. And I actually wrote a sandbar article on a bill that if it passes, would establish a pilot program to address the invasion of blue catfish in the Chesapeake Bay. That article will be out in this month's edition of the sandbar, which should come out by the end of the month. You can look for it there. But

essentially the bill would authorize NOAA to incentivize the catch and sale of blue catfish by providing subsidies to pet and animal food manufacturers who buy blue catfish caught from the Chesapeake Bay. And frameworks like this, if successful, could help inform management strategies for other aquatic invasives like the green crab. And then I just have one more slide to say. Thank you. And before I turn it back over to Terra, I just want to mention that once I finalize my research products, they'll be available on the law center's website in the form of a updated memorandum and potentially some other graphics, but stay tuned on that.

(41:27):

So that's what I have for you today. Thank you everyone for listening in. Yeah.

Terra Bowling (41:35):

All right. Thank you so much everyone. Thanks Amy, Jordan, and Tess. It's been a pleasure to have them here this summer. We have plenty of time for questions. If anyone wants to raise a hand, you're welcome to, or you can type it in chat and we can read it aloud. I don't think we have any yet.

Speaker 5 (42:08):

This is not a very interesting question. And you maybe said this, Tess, but have you eaten the crab?

Tess Bradley (42:17):

Yes. No, that's a very interesting question. I ate them and drank them. They're in everything in Portland. It's very exciting to see just like we talked about, establishing those markets for green crabs. That's huge even if you're putting them in whiskey or in ramen. And so we all got to taste some green crab dishes. I think the ramen was the biggest hit. There was also a fried rice with green crab in it and then just some deep fried green crabs on sandwiches. So yes, we all ate plenty of green crabs out there and they're pretty delicious. They just taste like regular crabs.

Speaker 5 (42:52):

Yeah. They know how to cook food in Portland.

Tess Bradley (42:55):

Yes, they do.

Speaker 5 (42:58):

Green crab whiskey. All right. I'm intrigued. I'll put it in the chat. Thank you.

Stephanie Otts (43:06):

And Terra, if we have a minute, so I'm Stephanie Otts. I'm the director of the National Sea Grant Law Center. I also just wanted to take a minute to thank all of our Sea Grant program partners that have brought us questions and collaborated with us this summer and also taken the time to host some of the interns this summer. We really can't provide these type of opportunities without all your great questions and partnerships. So thanks. And if there's Sea Grant program partners on the webinar who are wondering like, oh, I might have a question, keep us in mind for next summer.

Terra Bowling (43:52):

Okay. I see. There you go. Go ahead.

Speaker 7 ([43:58](#)):

Hi, Tess. Thanks for that informative presentation. I'm curious if anybody has tried to list green crab as a federally recognized invasive species and if you could share a little bit more about the Lacey Act. Is funding levels the same throughout states when those species are listed federally? Yeah, I'm curious. I think that's a challenge too, but they've just been around on the East Coast a lot longer than they have on the West. But I know some folks are disappointed about that. Yeah, just your thoughts on the federal recognition.

Tess Bradley ([44:45](#)):

Yeah, I can definitely speak to that a little bit. First of all, in terms of the funding disparities, that's definitely something that I was seeing over and over again when conducting my research. You have places like Washington State who are super motivated that got millions of dollars appropriated in one legislative session. And then you have New England states who have been dealing with these crabs for over 200 years who can't seem to get two pennies scraped together from government to cackle these crabs. And so there is that disparity, which really just depends state by state and who's in charge. In terms of federal recognition, I have not heard or read any talk of listing them federally. And what's interesting is now that New England states are looking to establish new markets for them, they really don't want them to be regulated any more strictly than they are because then you say, "Okay, now we can't even sell them, so we have to wait for somebody to come in and do an invasive species management plan rather than we can have our own harvesters locally just sell them to restaurants.

([45:54](#)):

So it's kind of a dual-edged sword. I'm not aware of any momentum on listing them on the Lacey Act, but I could be unaware of something that's going on. And yeah, there's just a lot of conversations happening at the local level about do we even want them to be federally recognized or is it best just to keep trying to do what we can do at the local level? So I know that doesn't perfectly answer your question, but that's what I got.

Speaker 7 ([46:21](#)):

Yeah, thanks for sharing your thoughts.

Terra Bowling ([46:34](#)):

Great. Well, I'm not seeing any more questions unless someone wants to jump in last minute. We could go ahead and wrap up a little bit early. I want to thank everyone so much for joining our webinar. I hope you all enjoyed it. A big thanks again to our presenters. Stay tuned for the announcements for our next webinar. The next one will be on the Supreme Court decisions over the past term and we'll be posting this recording on our website as soon as we have it. So just stay tuned to our social media and emails. So thanks everyone. Have a great afternoon.