

Terra:

I'm a senior staff attorney at the National Sea Grant Law Center. In today's presentation we'll be hearing from four of our summer law students, as well as our summer undergraduate intern on some research that they did this summer. Before we begin, just a few quick housekeeping notes. First of all, everyone's on mute right now to cut down on background chat. You can feel free to use the chat box at any time if you have questions, and then we'll answer any questions at the end of the webinar. If you have technical issues, feel free to private chat with Lauren Fremin, our project coordinator and webinar host. I also wanted to let everyone know that the webinar is being recorded and we'll post it to our website soon. It usually takes a couple of days to get everything finalized, but beyond the lookout for an email about that.

For anyone not familiar with the National Sea Grant Law Center, just wanted to give a quick overview. We were founded in 2002. We're housed at the University of Mississippi School of Law, and we provide legal research, outreach and education to the wider Sea Grant network of 34 Sea Grant programs across the country. And if you're interested in our work and what else we have going on, I encourage you to visit our social media sites, as well as our website. Let's get started with our first presenter. I'll pass it over to Cheyanne Sharp.

Cheyenne:

Hi everyone, my name is Cheyanne Sharp, and I'm a rising 2L student at Stetson University College of Law in Gulfport, Florida. I had the opportunity to take on two different research projects for the law center this summer. The first was about organizational liability for volunteer programs, and the next was about ongoing PFAS litigation. Next slide, please.

My first project was an advisory memo for Florida Sea Grant where I was asked to investigate their potential liability associated with the Eyes on Seagrass program. I looked at their liability to volunteers who may be injured while taking part in the program. As well as the potential liability of any nonprofits that might decide to adopt and expand Eyes on Seagrass. Next slide, please.

Eyes on Seagrass is a citizen science monitoring program developed by Florida Sea Grant, and its goal is to document the health of Florida seagrasses to better inform decisions on its management. This is important here in Florida, because seagrasses provide food and habitat to many fish species, and they also have ecosystem benefits like improving water quality and stabilizing shorelines. So volunteers are trained, sorry ... Volunteers are trained by Florida Sea Grant and given the equipment they'll need to conduct in-water surveys of seagrass populations, and then Florida Sea Grant provides that data on seagrass health to Florida's Natural Resource Managers.

Next slide, please. Any claims brought by injured volunteers against Florida Sea Grant would likely be based in negligence, and their success on those claims would depend on each of these four elements. The first element that has to be established is a duty of care which exists if the organization's conduct puts the volunteers within a foreseeable zone of risk. So Florida Sea Grant most likely owes its volunteers a duty of care, because participating in the program involves some foreseeable risks associated with being out in the water. The next element of negligence is a breach of that duty, which happens when someone fails to act with reasonable care under the circumstances. An injured volunteer could allege that Florida Sea Grant failed to act reasonably in designing the program or safely in supervising it. But if Florida Sea Grant did a risk assessment on the program and develop their safety protocols around it, then any negligence claims would probably fail this element, because the organization would be able to prove that it took all reasonable precautions to prevent against the risks associated with participation.

The next element is causation, which can only be proven if Florida Sea Grant's conduct or decisions were a substantial cause of the volunteer's particular injury that arises and the injury was a natural and foreseeable result of those actions. Finally, to prove a case of negligence, the volunteer usually must show that they suffered physical injury to themselves or their property. Next slide please.

Next I also looked at Florida Sea Grant's potential defenses to any negligence claims. And an important one is sovereign immunity, which is a doctrine that says that a government entity can't be sued without its consent. It's meant to protect government entities when they make necessary policy and planning decisions, otherwise known as their discretionary functions. Florida Sea Grant is a part of the University of Florida, which is a public state institution, so that would likely make Florida Sea Grant a state government entity as well. Florida Sea Grant's development and implementation of Eyes on Seagrass would also be considered discretionary functions, because they're essential to carrying out the organization's research-based goals.

Florida Sea Grant would most likely be protected by sovereign immunity barring any negligence claims against it from injured volunteers. On the other hand, if a nonprofit organization adopted the Eyes on Seagrass program and carried it out independently, the nonprofit would not be protected by sovereign immunity, because they're not government entities. So, nonprofits should make sure that they develop properly worded waivers instead as a defense to any negligence claims by their own volunteers. Some of the other details that I discussed in my memo are that both organizations could also potentially be held liable for on-the-job torts committed by their employees. And also that Florida's Volunteer Protection Act shields volunteers from having to pay for damages that they accidentally caused while volunteering. This was just a quick overview of some of the main topics I covered in my research, but if you'd like to learn more about the details, you can find the full memo on the Law Center's website by scanning the QR code on this slide.

Next, slide please. My next project was to develop an overview of an ongoing multidistrict litigation concerning PFAS contamination from firefighting foams. First I'm going to explain what a multidistrict litigation is and then I'll get into the details of the one that I researched.

Next slide, please. So, a multidistrict litigation or an MDL is similar to a class action lawsuit in that it involves multiple similarly situated plaintiffs. But whereas a class action is one lawsuit on behalf of all the class members, an MDL combines several similar but independent lawsuits just for the discovery process and for pretrial proceedings. So here's something like the life cycle of an MDL. First plaintiffs bring their own lawsuits in whichever court they normally would. Next, if several similar cases are being filed, the judicial panel on multidistrict litigation will decide whether they should be combined into an MDL. And the main considerations here are whether the cases share common questions of fact and whether transfer into an MDL would improve convenience and efficiency. If the panel does decide to initiate an MDL, it'll then decide which district court the cases will be transferred to for consolidated discovery and pretrial proceedings. Many cases are resolved through pretrial motions and settlement while part of the MDL, and in that case they won't make it to step four, but if a case does proceed to trial, it'll be returned back to the original pre-MDL court for that trial.

Next slide, please. Next I wanted to go over some key terms involved in the firefighting foam MDL. Aqueous film-forming foams are fire suppressants used to extinguish fires that are started by flammable liquids like oil and gas, and they're often used at places like fire training facilities, military installations and airports. And unfortunately, some of these foams contain toxic chemicals known as PFAS. These are a large group of compounds that are helpful because they're resistant to things like oil, heat and water, but they've also been found to cause a variety of health problems. PFAS are also commonly called forever chemicals, because they're long-lasting in the environment, including when water supplies get contaminated with them.

Next slide please. So, my research focused on an ongoing MDL centered around these potentially toxic firefighting foams. All of the cases in this MDL are against the foam manufacturers and the plaintiffs allege that their injuries were caused by the release of PFAS into the environment through the use of these firefighting foams. The panel created the MDL in 2018, but new cases have continuously been added into it since then. The MDL now includes over 9,000 active cases going through pre-trial proceedings and discovery together, and they're all against common defendants like 3M, DuPont and Chemours. And

finally, the MDL cases are being transferred to the District of South Carolina with Judge Richard Gergel overseeing them.

Next slide, please. Throughout my research I learned that there are four main types of lawsuits that have been consolidated into this MDL. First, many states have filed lawsuits against the firefighting foam manufacturers, alleging that the improper design, advertisement and disposal of their products as led to contamination of the state's natural resources, like their water supplies and their wildlife. And the states are seeking all damages associated with monitoring and treating that contamination.

Next many public water systems throughout the country have brought similar suits, alleging that the defendant's design, manufacture and sale of foams containing PFAS has led to contamination of their property. Many major settlements have been reached in this category with 3M, DuPont, Chemours and Tyco Fire Products each already reached providing billions of dollars to water providers for PFAS remediation and monitoring. Individual property owners whose private wells have been contaminated with PFAS from the use of firefighting foams nearby have also brought similar suits to those brought by the nation's public water systems. And finally, individuals are also bringing personal injury claims against foam manufacturers for their PFAS-related illnesses. These claims are most commonly brought by consumers who drank PFAS-contaminated water, and by firefighters who were directly exposed to foams containing PFAS. And the most common injuries suffered by these plaintiffs are various cancers, thyroid disease, and ulcerative colitis.

Some of the most common claims throughout all of these categories are negligence, trespass, public and private nuisance, defective product design, and a failure to warn. So my research on this MDL along with some more research I did on North Carolina's Chemours consent order will be shared on the Law Center's website soon. But in the meantime, any questions can be directed to Cathy Janasie or Amy Kraitchman, who are overseeing the Law Center's PFAS project.

Next slide, please. Thank you all for listening, and also thank you to everyone at the Law Center for giving me the opportunity to work on these projects over the summer. And next I'm going to pass it over to Patricia for her presentation.

Patricia:

Thank you, Cheyenne. Good afternoon everyone. My name is Patricia McKee and I'm a third year student at the Elizabeth Haub School of Law at Pace University in White Plains New York. This summer I focused almost exclusively on wetlands. I wrote a blog article discussing the legal implications of the U.S. Supreme Court decision in Sackett versus EPA in 2023. That full article is available on the center's website. I also responded to an advisory request from the South Carolina Sea Grant inquiring about applying thin layer placement or TLP as a possible wetland restoration technique in their state. Specifically, I compiled information regarding the permitting for TLP, explored federal and state programs, and I collaborated with state officials to ensure accuracy. Today I'm sharing just a snapshot of that work.

Next slide, please. I have prepared a brief roadmap to guide you through my presentation, starting with the critical research question of, "Why wetlands?" This section will provide context for my project on TLP. Then I'll introduce the Sackett case and explain its importance for wetlands, the regulation, protection and restoration. Next, I will define TLP and describe its relevance for wetlands mitigation. Wetlands loss, mitigation, and management. Finally, based on my findings, I will conclude with my recommendations for wetlands management.

Next slide, please. When approaching this project, my first step was establishing a comprehensive definition of wetlands. Determining what constitute a wetland is a scientific determination. My report addresses the question, "What are jurisdictional wetlands?" The federal definition of wetland has evolved. And my research relied on the post-Sackett interpretation, which limits wetlands to areas with a continuous surface connection to relatively permanent water bodies.

So, to be a wetland, a water body must be indistinguishably part of established federal waters. If you're confused, don't worry, I was in the same position when I first read the Sackett opinion. Allow me to explain. A wetland must have a direct and unbroken connection to a body of water that is present all year, like a lake or a river. This means that when you look at the wetland, you cannot tell where it ends and the lake or river begins. This ruling noticeably excludes interstate isolated wetlands without a conduit to another federal water body. For example, that would include Carolina bays or pocosins in the South Carolina watershed. Why is that omission significant? Well, wetlands are crucial ecosystems providing numerous benefits including water filtration, flood control, and habitat for rare and commercially valuable wildlife species. Unfortunately, the United States is facing an unparalleled decline in our wetlands nationwide. Those wetlands often find themselves stuck between the dual threats of conversion for human development and inundation by rising seas.

Next slide, please. These images illustrate those dual threats. On the left is a depiction of wetland loss due to overwash from Hurricane Sandy in 2012, and on the top right, an example of human activity disturbing a wetland. I also included the graphic on the bottom right, showing how wetland loss rates are surging. Increasing by 50% between 2009 and 2019 according to the U.S. Fish and Wildlife Service. This rise is a significant indicator of the ongoing threats to these ecosystems.

Next slide, please. The Clean Water Act is the most crucial legislation for U.S. Wetlands protection. Enacted in 1972 to restore the quality of our nation's waters, the act establishes, permits safeguarding wetlands from pollution and unregulated development. Those provisions prohibit the discharge of pollutants into navigable waters defined as Waters of the United States, or WOTUS. The definition of WOTUS has been contentious. Recently culminating in the 2023 Supreme Court case Sackett versus EPA. The central issue in this case was whether wetlands on the Sacketts property fell under the definition of WOTUS and therefore were subject to Clean Water Act regulation and EPA enforcement. If so, the Sacketts could not develop their property by filling the wetlands, at least not without the proper or an appropriate permit.

The Sacketts challenged the EPA, arguing the agency had overstepped its jurisdiction, and the court agreed. The Sackett opinion spawned the present WOTUS definition that wetlands must have a continuous surface connection to relatively permanent waters, making them indistinguishable from those waters. This change has significantly limited the EPA's enforcement reach, placing more responsibility on state and local governments to protect wetlands within their jurisdiction. Moreover, although my project does not focus on it, I acknowledge that the recent Loper Bright case, which overturned Chevron deference will further hinder or impede agency efforts to uphold similar regulatory definitions in court.

Next slide, please. Absent sufficient oversight, wetlands become susceptible to unregulated activities, which may cause environmental degradation and eventually wetland loss. Currently, only three states, Michigan, Florida, and New Jersey have independent wetland management programs. The others are under federal supervision or some form of co-regulation. Under the narrower scope adopted post-Sackett, many wetlands no longer receive federal protections, generating widespread regulatory uncertainty. My blog article summarized two instances where stakeholders have begun advocating for robust protections and clarity through the court system. In one case, *White v. EPA* in 2024, a North Carolina landowner claimed the new rule was vague and ambiguous. Inhibiting him from identifying the wetlands on his property, delaying development and causing potential revenue loss. As that case and others like it matriculate through the courts, many states have begun considering adaptive management approaches for immediate wetland protection and restoration.

Next slide, please. This summer I prepared an overview of how federal and state permits apply to thin layer placement or TLP, which involves strategically placing dredged material on subsiding wetlands to facilitate their repair. I found the best fit for federal permits was Section 404 of the Clean Water Act, which permits dredging or filling a wetland if, one, no viable alternative exists. Or two, it will not significantly degrade the site. This section likely applies to TLP as it represents a beneficial use of dredged material with no feasible alternative. The Water Resources Development Act, or WRDA,

instructs the Army Corps of Engineers to consistently devise new methods for using dredged material in beneficial ways. And in 2023 the Army Corps identified TLP as an advantageous opportunity to increase the beneficial use of dredged material from 30% to 70% by 2030. This precedent allows for the integration of TLP into state regulatory frameworks.

My report examined how the Atlantic coast, specifically from Maryland to Louisiana implements TLP. Some states like Maryland partner with the Army Corps to produce a joint permit application. While others, like Louisiana, have been performing TLP since the early 1970s and have a year-long method for selecting priority sites.

TLP restores unstable areas when traditional methods become ineffective due to accelerated subsidence and decay. It can also supplement other projects like living shorelines or beach and dune nourishment and be integrated into hybrid coastal protection strategies involving human infrastructure like levees or seawalls.

Next slide, please. While the Clean Water Act governs federal permits, states have flexibility when applying TLP, which allows for tailored approaches based on jurisdictional needs and ecological conditions. TLP projects have yet to be permitted in South Carolina. So, I examined TLP initiatives in the three aforementioned states of Maryland, Georgia and Louisiana. Maryland's permitting framework is comprehensive involving both tidal and non-tidal wetlands. The Maryland department of the environment manages permits under the Maryland Tidal Wetlands Act and the Non-Tidal Wetlands Protection Act.

Georgia similarly differentiates between freshwater wetlands and coastal marshlands, with permits available for either location. Louisiana has a well-established framework for managing its wetlands, involving the Coastal Wetlands Planning Protection and Restoration Act, or CWPPRA. This is the only joint between the federal and the state government restoration effort with a predictable and recurring funding stream designed to restore vanishing wetlands. Despite these regulatory variances, all three states have successfully implemented TLP.

Next slide, please. The success of wetland restoration projects can be measured by assessing the recovery of native flora and fauna and improvements in water quality. However, TLP is not designed as a long-term solution. It is merely a temporary crutch. We can enhance wetland protection by investing in climate resilient development, including state and local land use plans, prioritizing wetlands.

Next slide please. Balancing wetland conservation with human development needs can be complex, but possible through low-impact development strategies like permeable pavements that divert harmful stormwater runoff. Or zoning regulations that steer development away from sensitive wetlands, as well as financial incentives like easements and wetland mitigation banks where developers can purchase credits to offset the impact of their projects on adjacent wetlands. You can also contribute to the dialogue on wetlands by participating in public awareness campaigns and supporting research endeavors. Thank you, I will now turn it over to Collin.

Collin:

Thanks, Patricia. Good afternoon. My name is Collin Dawson. I'm a rising 2L at Northwestern Pritzker School of Law in Chicago. Today I'm going to be talking about a few of the projects I worked on this summer. All of which concerned in one way or another competitions and disputes over the way we use our water. My first major project was examining the regulations surrounding seaweed mariculture. I focused primarily on the coastal states, which are members of the Seaweed Hub listed on this slide. The general trend that I found during my research was that the cultivation of seaweed is rising in almost all coastal states, but the regulations surrounding this cultivation vary widely from state to state. Some states focused on regulating individuals harvesting seaweed in the wild, regulating what tools they can use, how much they can harvest, when harvest can occur, things like that. Other states instead focused on establishing a commercial lease or permit program for seaweed farms.

Next slide, please. I then moved on to examining some of the federal regulations surrounding seaweed mariculture, and to examine those, you need to start with the Clean Water Act, one of the most sweeping and important environmental laws in our country. Among its many goals, it governs the discharge of pollutants into waters of the United States, and specifically section 404 of the ACT instructs the Army Corps of Engineers to distribute permits for projects which will discharge dredge or fill material into waters of the United States.

Next slide, please. The Army Corps issues a pretty wide variety of permits. Individual permits are available for those who apply for them on a project-by-project basis. Corps districts are also allowed to establish their own permits at the regional level. And finally, there are the Nationwide Permits or NWP, and the vast majority of Corps permitting is done through these NWP. This is primarily because the NWP have a much more streamlined application process than the other kinds of permits. In exchange for this ease of access, the Corps is only permitted to establish NWP for classes of activities which they anticipate will only have a minimal adverse impact on the environment.

Next slide, please. Currently, there are three NWP, which concern Mariculture, NWP 55 is for seaweed, number 48 is for commercial shellfish mariculture, and number 56 is for commercial finfish operations. All three of these NWP authorize discharges into U.S. waters and also allow for the establishment of structures which can then be used in the operations that each permit allows for. These three permits have seen wide approval throughout relevant states in the U.S. The major exceptions being the New England area, which has restricted the use of all Nationwide Permits, and D.C., which has currently suspended these three permits along with a few others.

NWP 55 has been largely uncontroversial, but NWP 48 and 56 have both faced some controversy, and it is that litigation which my research turned to next. NWP 48, which again is for commercial shellfish operations faced some controversy when the Corps issued its decision to renew the permit in 2017. Shortly after this several environmental groups sued the Corps and they brought a few different claims. One was that the Corps's conclusion that NWP 48 and associated projects would have only a minimal environmental impact was not supported by the data the Corps had in front of it when it made its decision. The groups also argued that many potential impacts of the shellfish projects had either been analyzed very poorly or hadn't been analyzed at all. And finally, the groups argued that instead of the Corps performing the bulk of the analysis upfront at the national level as is required, they were instead punting this analysis to district engineers, the local employees who make on the ground permit decisions.

Ultimately, the judge in that case agreed with the groups, and this led to NWP 48 being vacated in the State of Washington, meaning that until the next version of the permit was issued in 2021, this NWP couldn't be used within the state. All permittees needed to obtain individual permits, which again, much harder to obtain than the nationwide permits.

Next slide, please. NWP 56, which again is for commercial finfish operations, has also faced controversy. I wrote a longer blog post on this topic, which can be accessed through this QR code NWP 56 faced controversy when it was issued for the first time in 2021. And the environmental groups involved in this case brought very similar complaints to the ones brought against NWP 48. They again said that a lot of the analysis conducted by the Corps was very weak and that they completely failed to analyze some potential impacts, and they again argued that the Corps was punting the required analysis to district engineers.

Now, the Corps argues that this case is entirely different than the prior one, and there are a couple of reasons why that might be true. One is that NWP 56 was being issued for the very first time. It was not being reissued like NWP 48 was, which means that the Corps necessarily has less information about potential impacts, because at the time there weren't existing projects that they could point to as examples. And secondly, the Corps argues that even though it has less information, it has still conducted a more thorough analysis than it did in 2017 for NWP 48. Finally, the Corps is arguing that district engineers are not being left with the burden of doing all the analysis themselves. Their role is simply to cement the

analysis, which is already being done at the national level. This case is ongoing. Oral arguments were only heard a couple of weeks ago on July 8th, so it remains to be seen which of these arguments the judge will find more persuasive.

Next slide, please. My next major project also concerned water use this time in the American Southwest. The Rio Grande is a river, which as you can see on the map, runs through Colorado, New Mexico, Texas, and Mexico. And because it crosses so many borders, it has been the subject of a great many disputes and negotiations throughout the years. Arguably, the most important agreement concerning the river is the 1938 Rio Grande Compact between Colorado, New Mexico and Texas. Under the terms of this compact each year Colorado agrees to deliver a set amount of water to New Mexico at the Colorado-New Mexico border. And New Mexico in turn delivers water to the Elephant Butte Reservoir. Now, this location seems like a strange choice at first, why wouldn't New Mexico be delivering to the Texas border 100 miles further south?

But this location actually makes a great deal of sense when the compact is put in context with the other agreements which exist concerning the river. Namely, the 1906 treaty between the United States and Mexico, whereby the U.S. agrees to release water to Mexico each year from the reservoir, as well as the downstream contracts, a series of agreements between the U.S. and communities in New Mexico and Texas, where again, the U.S. agrees to deliver water by releasing it from the reservoir. So, the reservoir was selected as the delivery point for the compact, because this allowed the compact to fit in seamlessly with the numerous other agreements which already existed in the area. Like all interstate compacts, the Rio Grande Compact then went to Congress for approval, which it received in 1939, and this elevated the compact to the level of federal law just as if Congress had issued a statute.

Next slide, please. The compact operated more or less smoothly until 2018 when Texas filed a complaint arguing that New Mexico's increased groundwater pumping in the area south of the Elephant Butte Reservoir was causing Texas to receive less water than what it was due under the compact. Like all disputes between states, this immediately went to the Supreme Court, who appointed a special master to oversee the trial. A special master is a official who is appointed by a court, to perform court-like functions such as hearing evidence and testimony, after which the master will provide a recommendation to the court.

The U.S. asked for permission to intervene in this litigation. They wanted to make largely the same claims as Texas that New Mexico's pumping was violating the compact. The master recommended that these claims be dismissed, but in a unanimous decision in 2018 the Supreme Court granted the U.S. Permission to intervene, and it did so because it argued that the U.S. had distinctively federal interests, which could only be ... It would only be able to defend if it was permitted to intervene in the litigation. In particular, the court pointed to the 1906 U.S.-Mexico Treaty and the downstream contracts.

Next slide, please. After the U.S. Was given permission to intervene, litigation continued until 2024 when New Mexico and Texas came together and proposed a consent decree. This is a special kind of settlement agreement that parties take to a court for approval. Under the terms of this proposed consent decree, New Mexico would be allowed to continue its increased levels of pumping and the water due to Texas, instead of being measured at the reservoir as had been done previously, would instead be measured at an existing federal water gauge near El Paso. This would make sure that Texas was still receiving the amount of water it was due under the compact. The U.S. objected to this consent decree saying it doesn't matter what the states can agree on, New Mexico's pumping is violating the compact and that's impermissible. They also argued that the court approving this consent decree would dismiss their claims without their permission, leaving them with no way to defend their interests.

The court this time issued a split decision, but the majority ultimately sided with the U.S. They agreed that yes, the U.S. still has valid claims under the compact, and yes, approving the consent decree would dismiss these claims and leave the U.S. with no way to defend its interests. There was a pretty powerful dissent in this case, which argued that essentially the federal government was being allowed to hijack the

litigation. Again, this case was only before the Supreme Court, because it was a dispute between states, and the dissent worried about the precedent it would be setting to allow the U.S. to drag out litigation even after the involved states had already come to an agreement.

This decision came out just last month. So the question remains is, what happens now? The consent decree has been officially rejected. It is off the table and cannot be used, which means that the parties have all been forced to return to the negotiation table, and litigation will continue until they can come to an agreement that they all consent to.

Next slide, please. That is the end of my presentation. Thank you so much. I'm now passing it over to Crystal.

Crystal:

Thank you, Collin. My name is Crystal Lawson and I am a current 3L at Mitchell Hamline School of Law. And this summer I worked on PFAS contamination research. The main objective to this research was to identify any legislative or regulatory actions that address PFAS contaminations in the Great Lakes or Lake Champlain regions. And so, the focus for me was for nine specific states. It was Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Vermont and Wisconsin. The main goals for this research was to develop a comprehensive understanding of the different current and proposed PFAS-related legislation and regulatory measures for the specific Great Lakes and Lake Champlain regions. In addition to that, it was to provide actionable insights and recommendations to address PFAS contamination effectively.

Next slide. What are PFAS? PFAS are Per- and Polyfluoroalkyl Substances, and they are chemicals that are resistant to grease, oil, water, and heat, and they are manufactured chemicals and they have been used in both industry and consumer products since the 1940s.

Why is it an issue? Research has shown that exposure to certain levels of PFAS can lead to different types of cancer effects, increased risk of some cancers, including prostate, kidney, and testicular, some weight effects. It has been shown to have an increased cholesterol levels and or risk of obesity. It also impacts immune effects and reduces the ability of the body's immune systems to fight infections. There have been some shown developmental effects as well, including low birth rate, accelerated puberty, bone variations and behavioral changes, and it has also shown to have reproductive effects, including decreased fertility or increased high blood pressure in pregnant women.

Next slide. for every state within the nine states that we researched the summer, a legal scan was conducted. And what the legal scan consisted of was an investigation into each state's legislature to determine if any statutes, laws, rules or bills were introduced, past denied or pending. And we have an example of what one of the pages for Minnesota's legislature looked like. In addition to that, besides looking at the state legislature, we also investigated any state agencies to determine if any standards or advisories had been issued. For example, in the State of New York, we also looked into the New York Department of Environmental Conservation and Climate Changes, as well as New York State DEC Solid Waste Program, and also the Department of Public Service.

Some additional websites that we also used in our investigation was the PFAS Project Lab that was created by Northwestern University. We also looked into the National Conference of State Legislatures, which has a very specific page for PFAS and PFAS regulations. In addition to that we also looked at the EPA and also the Environmental Council of the States.

Next slide. Some very specific things to note that we discovered this summer. One of them was that Minnesota was the most active state in terms of introduction of House and Senate bills pertaining to PFAS. They did have a large volume of introduction of bills. However, it doesn't mean that they had all passed. Some are pending, some have passed and some have been declined as well. The good news is, is within our investigation we saw that all nine states had existing PFAS legislation or regulations as of 2024. A couple of other things that impacted the different types of rules and statutes and legislation that



we saw was in April of 2024 EPA issued the first ever national legally enforceable drinking water standard to protect communities from exposure to PFAS. The rule is finalized on June 25th, 2024, and public water systems have some timeframe for compliance. They have until June 25th, 2027 to meet the initial monitoring requirements and until 2029 to meet any treatment requirements as well.

In addition to that, in April of 2024, the EPA also announced its final rule designating two PFAS compounds as hazardous substance under CERCLA. And this rule was published on May 8th, 2024 and had an effective date of July 8th, 2024, which impacts how different PFAS could be impacted on how they're doing remediation cleanup and monitoring with a change of title to hazardous substance. In addition to that, according to the EPA Spring 2024 agency rule list, the EPA does expect to issue a proposed rule in June of 2025 that will update the National Pollutant Discharge Elimination System application regulations, and it will include PFAS as well.

And three of the main things that we did find for each state is that they all have legislation rules or statutes that pertain to drinking water, firefighting foam, and also packaging and consumer products.

Next slide. Here we're just showing this quick table of what the new drinking water MCLs are for PFAS versus each state that we had looked at. The majority of states already had some existing concentrations that they had levels for MCLs for each state. Some states are going to have to adjust as their concentrations that they currently have MCLs are higher than what the EPA's final MCLs are. And so we just kind of put out here what the different concentrations are. Things to note here is that Indiana and Ohio they follow, they do not have specific concentrations for their state, but they do file any guidance that's provided by the EPA. Vermont is a little special as it has a set combined MCL, so they take all of the PFAS concentrations and they cannot exceed 20 parts per trillion. That means the sum of the concentrations cannot exceed that within the state.

Next slide please. Another thing that we noticed in each one of the nine states to some point is that they all address firefighting foam. PFAS are prevalent in firefighting aqueous film forming foam solutions. And they have been used for decades to extinguish flammable liquids, liquid fires, also known as Class B fires. AFFs have been linked to the contamination of water in different communities where it's been used. And here for each state we're showing which bill or act or guidance impacts the firefighting foam. The majority of the states have either a ban or restriction on the use of PFAS containing firefighting foam for training purposes or for testing purposes. And they require that if these foams are used in an emergency situation or in a firefighting situation, that proper disposal is used, as well as proper notification to the state as well.

Next slide please. And in addition to that, not all states had specific legislation for packaging and consumer products, but a majority of them did. PFAS have been used in a variety of different products, including stain and water-resistant fabrics and carpeting, cleaning products, clothing, children's toys, as well as cosmetics. Here what we can see is that each state either prohibits or have recommendations about the use of PFAS, especially in food packaging. And a few of them have also touched on just consumer products and packaging in general. Two states, Indiana and Pennsylvania, they didn't have specific legislation targeting PFAS and packaging or consumer products, but they were active in monitoring what other states and federal legislation was looking like on whether or not they should move forward. But they did not have specific legislation for them.

Next slide please. And that was our research that we did for PFAS legislation this summer. And I'm going to turn it over to Mateos.

Mateos:

Okay. Hello, everyone. My name is Mateos. I am the community gauge intern for this summer, and I am a rising senior attending the University of Mississippi.

Next slide, please. This summer I covered a couple of things. I mainly looked at environmental justice in an article I wrote. Also, looked at some things regarding the illicit advisory opinion and recent comments on Department of Justice plan.

Next slide please. First off, I wrote an article on environmental justice. Really the question I wanted to answer was, what is the legal definition of environmental justice? And to what extent is that definition enforceable? And so far there really isn't any federal environmental justice laws on the books in the United States.

Next slide. Although, the EPA has defined environmental justice with the following, the fair treatment and meaningful involvement of all people, regardless of race, color, national origin or income with respect to the development, implementation, enforcement, environmental laws, regulations, and policies. Now, this definition and many other agencies share this definition as well. These definitions are helpful in generally guiding and aiding how these agencies do their policies and how they run things internally.

Next slide. And just some broad key takeaways. Again, there are no federal environmental justice laws, but despite that there are several federal executive orders and states that have shaped environmental justice practices. Immediately what comes to mind are some examples such as in New York and Maine, which have taken the initiative and passed laws that mandate that they achieve carbon ... That they commit ... Sorry, they've established statewide definitions for environmental justice and they have committed several actions in order to achieve it. Some of those actions involve carbon neutrality by 2045. And although, at the same time some states have or federal efforts to enforce environmental justice have faced some resistance in some states. Notably, one example was Texas, in which the Texas Commission on Environmental Quality has been in disputes with the EPA over allegations of lack of enforcement of civil rights legislation or civil rights laws.

Next slide. I also looked at an ITLOS advisory opinion in a blog post, or sorry, not a blog post, in a Sandbar article. Essentially, the ITLOS, or International Tribunal for the Law of the Sea is an international organization that a bunch of states party to unclose a treaty in the 1940s a bunch of states signed on to. And just recently they issued an advisory opinion ruling that, or stating that greenhouse gases should be considered marine pollution. The implications of this is that the original treaty UNCLOS gave states a bunch of obligations for how they should handle marine pollutants. And now greenhouse gases also are classified as marine pollutants, so a bunch of states now have obligations, or in the opinion of it, those now have obligations regarding greenhouse gases. These range from states have an obligation to take actions to mitigate the damage from greenhouse gases and several other things. The implications of this at this time are largely unknown. However, what's important is that ITLOS' opinion does set or provide the opportunity for courts for any climate legislation, or sorry for any climate cases, lawsuits in the future. Those courts can reference ITLOS in their opinions, in their rulings. So this could be future precedent.

Next slide. Finally, I took a look at, in a blog post, the Department of Justice is seeking comments on its environmental justice strategy plan. Earlier this month the Department of Justice issued a post saying that they've released a draft plan for a draft environmental justice strategy plan. And they outlined several goals, including that they want to prioritize cases that could harm human health. They want to increase public engagement, and they want to continue internal environmental justice education within the Department of Justice itself. And they want to focus on climate adaptation measures. And as a part of this draft plan they want to seek public comments and public feedback for how they can improve and flesh out these goals further. Unfortunately, at this time, public comments, the due date for that did end yesterday. However, they did seek that opportunity out.

Next slide please. And finally, I am currently working on a couple projects. One is just recently Hawaii youth won a settlement. A court recently ruled, I believe just last month that the Hawaii Department of Transportation is now committed to achieving zero emissions by 2045. There's also several other obligations that come with that, but in any case, this is a first of its kind historic settlement in the realm of

climate litigation. Additionally, I'm also taking a look at, in a memo, renewable energy siting and how that interacts with environmental justice. Normally, or conventionally renewable energy is often looked at as a way to advance energy justice and environmental justice. However, sometimes it may contribute to injustice. And I would like to take a look at that and how exactly that materializes. And also, want to take a look at why sometimes communities resist renewable energy projects. And with all that being said, next slide, that's all I have for y'all today, folks. Thank you.

Terra:

All right, thank you very much to the students, we do have time for questions. If anyone has those, you're welcome to unmute and ask them, or to type them in the chat box and we can read them for you.

Stephanie:

While we're waiting to see if anyone has any questions. I'm Stephanie Otts, the director of the National Sea Grant Law Center. I just wanted to say thanks to the students. For many of them today is their last day and we just really appreciate all of the great work that they have done this summer. And some of their products are available now, some are going to be coming out in the next couple of days to a week. So, please stay tuned to our emails and social media channels, and reach out if you directly have a particular interest in any of these topics.

Terra:

Okay. It looks Like there's a question for Patricia. It says, "How did you decide to pursue analysis of the APA decision? Was it the most pertinent to your research or did you know going into the summer that you wanted to review it?" Do you want to?

Patricia:

Yes, it was the most pertinent to my research, especially the revised WOTUS rule, because considering thin-layer placement, there was a change, a trickle-down effect from federal to state permitting projects and programs. So, it was going to be the axis on everything tilted. So, I had to take an in depth look at that in order to continue with my project down the line. I don't know Terra, if there is anything you would like to add?

Terra:

No, I think you covered it. All right, well, I don't see any further questions coming in, so I think it's time for us to wrap up. I want to thank everyone so much for joining our webinar. Again, it will be on our website in just a couple of days, so stay tuned to that. And for any future announcements, follow us on social media. Thank you again to our students for all their hard work this summer and for their work on these presentations. So, thank you everyone, and have a great afternoon.