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THE NONPOINT SOURCE MANAGEMENT PROGRAM UNDER THE CLEAN WATER
ACT: PERSPECTIVES FROM STATES

Wednesday, January 8, 2020

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The committee met, pursuant to notice, at 10:08 a.m. in room 406, Dirksen Senate Office Building, the Honorable John Barrasso [chairman of the committee] presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Braun, Rounds, Sullivan, Boozman, Wicker, Ernst, Cardin, Merkley, Gillibrand, Van Hollen.

STATEMENT OF THE HONORABLE JOHN BARRASSO, A UNITED STATES
SENATOR FROM THE STATE OF WYOMING

Senator Barrasso. Good morning. I call this hearing to order. I would like to wish you all a happy new year. Welcome back to everyone on the committee.

As chairman, I look forward to another very productive year. I will tell you, Senator Carper, I have this incredible list of things that we have done for the last year, working together in partnership, very successful. The staff has put it together, and it shows that we are a committee that works and gets things done.

Last year, we advanced bipartisan transportation infrastructure legislation. This year, the full Senate will pass that legislation, so we can build better roads and bridges and highways. We will be working on legislation to support critical water infrastructure as well, such as dams and locks and levees.

We will also continue to work together to advance legislation and protect America's air, our water, our wildlife. This committee has a proven track record of working across the aisle to get important legislation done, and I look forward to having that continue in 2020 and working in partnership with you.

Today's hearing is a great way to start the year by

examining a popular program that improves water quality through cooperation, not regulation. This program is the Nonpoint Source Management Program under The Clean Water Act.

Established in 1987, the program recognizes that controlling water pollution is not a one-size-fits-all issue.

Nonpoint sources are ones that do not come out of a pipe or a confined source. They are everywhere, runoffs from roads in urban areas, to water from agricultural operations, to sediment from construction sites, and eroding stream banks. For this reason, Congress correctly recognized that the best way to address these nonpoint source pollutions is to empower States. States come up with solutions that work for them. Washington provides grant funding for States to implement their programs. States must secure our funding to leverage those federal dollars.

The program is more than 30 years old. It has seen many successes, and we want to make sure it is working as effectively as possible. That is why we are having this hearing today. We are honored to welcome two experts from very different parts of the Country, but both who realize just how very important this is.

We have from Wyoming, Jennifer Zygmunt, who is the Nonpoint Source Program Coordinator at the Wyoming Department of Environmental Quality. Wyoming has some of the cleanest water

and air and land in the Country. Wyoming is the home of the headwaters that supply water throughout the Country. The four major river basins fed by Wyoming are the Missouri-Mississippi, the Green-Colorado, the Snake-Columbia, and the Great Salt Lake.

Wyoming also uses a variety of industries that rely on water supply and re-use, including energy production, ranching, and farming. Effective conservation and cleanup of water in Wyoming requires flexibility plus a deep understanding of our water systems. The Nonpoint Source Program was designed to do just that, to give States flexibility to manage water and to reduce pollution in a way that is best suited to the States' needs.

From 1999 to 2018, about 20 years, Wyoming funded 164 projects under its Nonpoint Source Management Program. As a result of the program, 15 streams and river segments, more than 187 miles in length, are now clean. In 2018, Wyoming completed six projects. Those projects reduced sediment, reduced nitrogen, reduced phosphorus and e coli loading in Wyoming's rivers and streams. Sediment loading alone fell by more than 40,000 tons per year.

The USEPA has published a number of Wyoming's nonpoint source projects as model success stories. One EPA-published example occurred near my hometown of Casper, Wyoming, where yesterday the wind was blowing 79 miles an hour. And they

closed down the Federal Government because they thought it might snow.

[Laughter.]

Senator Barrasso. Well, who are these people?

Parts of Wyoming have naturally high levels of selenium in the soil. Several years of cooperative work between the Natrona County Conservation District, the State of Wyoming, local landowners, and a number of other organizations led to selenium levels falling in the North Platte River. Selenium levels in the river dramatically decreased due to the education, due to outreach, and voluntary implementation of best management practices.

These efforts included converting hundreds of acres from flood irrigation to sprinkler irrigation and replacing open irrigation ditches with underground pipelines. A 36-mile segment of the North Platte River now meets water quality criteria for selenium. I look forward to hearing more about Wyoming's successes through this program during today's testimony.

I also look forward to hearing from Secretary Ben Grumbles from Maryland. We have two Maryland Senators on this committee. This is a very critical committee, and we are happy to have you here to testify.

I know that both of the Senators from Maryland are here to

listen very closely to what you have to say, because Maryland, as you know and this committee is constantly reminded, is home to the Chesapeake Bay. Maryland has critical challenges. I know that, Secretary Grumbles, you will discuss those.

Now I would like to turn to Ranking Member Carper for his opening remarks.

[The prepared statement of Senator Barrasso follows:]

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES
SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Thanks, Mr. Chairman. I just want to say I approve this message with respect to your opening statement. I am very proud of what we accomplished last year. I want to shout out to our bipartisan staff, and not just the majority and minority staff, but the folks who work for each of our members on our committee of handling the environmental portfolio.

We got a lot done. We have a few things left to do on our table and on our list, but we look forward to working on all of those.

I want to welcome our witnesses. Jennifer, have you always been a Zygmunt? I would hold onto that name. I bet you have some great nicknames. Any favorite albums by David Bowie? One comes to mind: Ziggy Stardust. There is a lot of good fun to be had with your name, but we will play it straight here today.

And Ben Grumbles, that is a good name to play with as well.

[Laughter.]

Senator Carper. We are not going to go there, because Chris Van Hollen told me that you never grumble, you are just a delight to be around. You are our neighbor on the Delmarva Peninsula and we love working with you.

Right behind me is Christophe Tulou, who used to be my Secretary of the Department of Natural Resources. You may

recall I was governor. We greatly value our partnership with your State.

I suspect we all know that our States are beset by continuing drinking water challenges: dead zones in the Gulf of Mexico and the Chesapeake Bay, hazardous algae blooms off the coast of Florida, and in our Great Lakes, continuing non-attainment of water quality standards in rivers and lakes and estuaries in every State across our Union.

These events are often devastating, not only to ecosystems and to human health, but also to local economies. For example, a 2009 study published in the Journal of Environmental Science and Technology calculated the combined cost of freshwater nutrient overloads in the U.S. at \$2.2 billion annually. I will say that again: \$2.2 billion annually -- I had no idea it was that large -- with losses in recreational water use and waterfront real estate values and drinking water.

In response to a 2011 toxic algae bloom in Lake Erie, Toledo's primary drinking water source, the city issued a three-day drinking water ban that affected over a half million residents. The city has since invested more than \$1 billion on water treatment upgrades and pollution remediation projects.

Florida spent \$17.3 million dollars in emergency funding in 2018 in response to harmful algae blooms, \$17.3 million. In July 2019, massive harmful algae blooms off the Gulf of Mexico

coast forced Mississippi to close all of its beaches. Can you imagine what that would be like, to close all of our beaches in Delmarva?

We know these challenges well in our home States of Delaware and Maryland and our southernmost county in Delaware, Sussex County, which is home to more chickens than any other county in the Nation, I think. Last time we counted, 400 chickens for every person in Delaware, and a lot of them are in Sussex.

With the robust production of corn, soybeans, and vegetables to feed the chickens, constituents must contend with unhealthy levels of nitrate in their well water too often. That nitrate is a legacy of decades of intensive agriculture, and until the last couple of decades, a lack of understanding and appreciation for the adverse effects this nutrient can have on the health of our babies and the quality of our invaluable coastal waters.

And along and around our inland bays, too many of those same Delawarrians are also living with highly polluted estuaries. They bloom with algae in warmer months, resulting in dead zones, occasional toxic algae blooms, and consequently, fish kills and stench.

Though several Federal programs exist to mitigate these sources of nonpoint source pollution, Section 319 of the Clean

Water Act is our primary defense against this pollution. Given the very real ecological, economic, and public health impacts associated with nonpoint source pollution, we either must do a better job with the tools we have or find more effective and expeditious means to reduce the nutrient sediment and other pollutants that flow off of our lands and into our waters. Maybe we need to do both.

I am particularly interested to learn how well the Clean Water Act Section 319 Program and other provisions of law actually arm our States in their efforts to meet their water quality goals, especially in the Chesapeake Bay watershed. As an upstream State in that watershed, Delaware is acutely aware of Maryland's and Virginia's expectations that we all do our part to reduce pollution in our States, pollution loading, and assist with the restoration of the iconic treasure that is the Chesapeake Bay.

At one point, Delaware was not doing enough. We are doing a whole lot better now, and can we do more? Yes, probably so, and we will. But it is time for some other upstream States like the Commonwealth of Pennsylvania to step up and clean up the water that they send down the Susquehanna River to the Chesapeake. This is essential, as our downstream neighbors have little recourse if upstream States fail to act on and meet their good neighbor expectations.

In that regard, Mr. Chairman, our States of Delaware and Wyoming share similar a circumstance. We have the headwaters of rivers and streams that are critical to the health of ecosystems and communities downstream. Given that nonpoint source pollution is the number one cause of non-attainment across our Country, I am also very interested to learn whether Section 319 is keeping our waters clean and serving the needs of downstream communities and neighboring States.

Let me close with this. While the 319 Program has certainly resulted in demonstrable successes, we continue to struggle with many of the same nonpoint source pollution problems that we did decades ago. More troubling, our changing climate has made the problems even worse. According to a recent CRS report, scientific research indicates that in recent years, the frequency and geographic distribution of harmful algae blooms have been increasing nationally and globally.

Climate change is exasperating these problems as heavier and more frequent rainfall increases runoff into our rivers. Clearly, we have plenty of work ahead of us. We must make sure our nonpoint source pollution programs are able to respond to our new climate reality, and I hope this hearing will give us insights into how to do both.

Thank you, Mr. Chairman, and welcome.

[The prepared statement of Senator Carper follows:]

Senator Barrasso. Thank you very much, Senator Carper.

We are now going to hear from our witnesses. I am pleased to introduce Jennifer Zygmunt, who is the Nonpoint Source Program Coordinator for the Wyoming Department of Environmental Quality. A native of Casper, she spent some time in New Mexico before heading back to Wyoming, and we are very glad that she did.

She graduated from the University of Wyoming in 2003 with a degree in botany and a minor in environment and natural resources. After graduation, she joined the department, where she wrote permits under the State's Clean Water Act Discharge Permit Program, and she did this for five years. For the last 11 years, she has managed the Nonpoint Source Program.

We thank you for your public service in protecting water quality for all the people of Wyoming. We are honored that you are here to testify today before the committee and to share your expertise with us. I know you have much to tell us about Wyoming's strong record of environmental protection and restoration through its nonpoint source program, and we look forward in a few moments to hearing your input on how we in Congress can make sure Washington works even better with Wyoming and other States to protect our Nation's water quality in the future.

Before you start, we are also honored to welcome Mr. Ben

Grumbles, Maryland's Secretary of the Environment. We have strong Maryland representation on this committee. Senator Cardin, as the senior Senator from Maryland, would you like to say a few words first? And then I will be happy to call on Senator Van Hollen as well.

Senator Cardin. Well, Mr. Chairman, first of all, thank you very much for the courtesy of being able to introduce Ben Grumbles, with my colleague Senator Van Hollen. Particularly, thank you for holding this hearing on Section 319. Wyoming and Maryland indeed have a common need for clean water, and we are proud of the actions of both of our States as leaders on clean water.

I am delighted to welcome Ben Grumbles, Maryland's Secretary of Environment. His duties include serving as chairman of the Governor's Chesapeake Bay Cabinet and chair of the Regional Greenhouse Gas Initiative, RGGI. Ben has served as the Assistant Administrator for Water at the U.S. Environmental Protection Agency from 2003 to 2009, and as Director of the Arizona Department of Environmental Quality, and as environmental counsel and a senior staff member of the Transportation and Infrastructure Committee and Science Committee in the United States House of Representatives.

So he has a great deal of experience at the State level, but also understands the Federal level from his experience

there, and both branches of government, the executive and legislative branches. He also was president of the U.S. Water Alliance, an environmental non-profit organization that educates the public on the value of water and the need for integrative and innovative solutions.

Section 319, as we will hear today, is a vital source of resources for us to deal with nonpoint source management. In our State, it is important in regard to how we deal with developers, local officials, and farmers to deal with water quality. Both the Chairman and Ranking Member have mentioned the Chesapeake Bay, and Section 319 provides sources for help in dealing with our commitment to the Chesapeake Bay.

One more word about Ben Grumbles and the Bay program. He is our leader in the State on the Bay, and he is following in a great tradition of really nonpartisan leadership in our State in our commitment to the Chesapeake Bay. He has shown incredible innovation and leadership, and we are very proud of what he is been able to demonstrate that we can do in Maryland, working with our partners in the surrounding States.

The key to the Chesapeake Bay program was that it was developed by the local governments. It started 40 years ago, and it was from the ground up. It was not from the Federal Government down. It was the local governments that came up with plans based upon best science and the political realities of

their State as to what they could do to save the Chesapeake Bay.

Then they joined together. The States surrounding the Chesapeake Bay said, "we have got to do this collectively." It was later that we involved the Federal Government. We involved the Federal Government for two main reasons, and I think Secretary Grumbles is very much aware of that.

First of all, we need help funding, funding sources. The Chesapeake Bay has been the beneficiary of the direct funding from the Federal Government as well as programs such as Section 319. But we also need someone to make sure that all stakeholders, and that means the farmers, the developers, the local governments, and all regions, all States, were doing their fair share, so that we had a committed program that all of us were doing our share.

That is where the enforcement by EPA has become so critically important, including the TMDLs. Secretary Grumbles, I think, can speak to how all this has worked well and the progress we have made, but we need all of our tools working together, and that is why Section 319 is a very important program and one that I hope, as we look at reauthorization programs, how we can expand and improve Section 319. I thank Secretary Grumbles for being here.

Senator Barrasso. Thank you, Senator Cardin. Senator Van Hollen.

Senator Van Hollen. Thank you, Mr. Chairman.

Well, with respect to the accolades about Secretary Grumbles, I am just going to say, amen to that. Thank you and our partners around this table on both sides of the aisle for working with Senator Cardin and myself, Senator Capito, and other members of the Bay States to provide the support that we need as a Country to this national treasure. Secretary Grumbles has been a big part of that.

We will get into this a little more later, but both Senator Cardin and Senator Carper mentioned the Chesapeake Bay Agreement and the need to enforce it. We have voluntary tools, but we decided in the Bay Agreement that when necessary, we ultimately need to have more leverage and more enforcement to make sure that all of the members of that multi-state jurisdiction take their responsibilities seriously and meet their reduction goals.

Thank you, Mr. Chairman, for having this hearing. This is a very important voluntary program, Section 319. We need to use all the tools at our disposal when we are addressing these issues. Thank you.

Senator Barrasso. Thank you, Senator Van Hollen.

I want to remind the witnesses that your full written testimony will be made part of the official hearing record, so we ask that you try to keep your statements to five minutes, so we have time for questions. I look forward to hearing from both

of you.

Ms. Zygmunt, please begin.

STATEMENT OF JENNIFER ZYGMUNT, NONPOINT SOURCE PROGRAM
COORDINATOR, WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Ms. Zygmunt. Good morning, Chairman Barrasso, Ranking Member Carper, and honorable members of the committee. Thank you for the opportunity to provide testimony for the Wyoming Department of Environmental Quality Nonpoint Source Program, which I have had the privilege of managing for the past 11 years.

You will find detailed background information on our program in my written testimony. For more information on recent program accomplishments, I encourage you to review our 2018 annual report, which is available online in an RJAS story map format.

Overall, the Wyoming DEQ believes that the Section 319 program is functioning effectively. We would like to highlight several aspects of the program that we feel are important to its success. First, national program guidance has provided sufficient flexibility to allow Wyoming to manage its nonpoint source program according to the needs of our State.

We appreciate areas of flexibility that were incorporated into the guidance during its 2013 revision. As one example, the increased ability to protect healthy waters in addition to restoring impaired waters has helped support important river restoration projects in Wyoming, expanding partnerships with

Wyoming Game and Fish Department, conservation districts, and Trout Unlimited. We continue to advocate for revisions to program guidance that support flexibility so that States can best address their priority water quality issues.

Second, the DEQ believes that a voluntary approach to nonpoint source pollution management is the most effective approach. While often challenging, bringing stakeholders together in a spirit of collaboration promotes partnerships, information sharing, and innovation. Projects with multiple benefits are the most likely to succeed in the long term, and the voluntary approach helps identify such win-win situations.

As one example, over 36 miles of the North Platte River were recently restored to meeting water quality standards. Converting flood irrigation to sprinkler irrigation in the watershed not only improved water quality, but it increased agricultural production, and it saved farmers money by reducing water usage and labor costs.

The importance of partnerships and local leadership and the successful voluntary approach cannot be overstated. Finding common goals with other agencies, organizations, and individuals is key to success. Some of DEQ's most important partnerships are those with the Wyoming Association of Conservation districts, our 34 individual conservation districts, and local members of those districts. As local government entities with

the authority to lead watershed planning and restoration efforts, conservation districts sponsor the majority of our 319 projects, and they provide an important link between the DEQ and our local stakeholders.

Finally, though a challenging part of the program, the collection of data to evaluate the program's effectiveness is important. The program's primary measure of success, the number of water bodies restored to meeting standards, emphasizes accountability and provides a meaningful communication tool with the public.

While the DEQ believes the program is operating effectively, we respectfully offer the following recommendations for further program improvement. Of highest priority, we recommend that EPA evaluates ways to streamline the 319 grant application and award process to avoid delays in awarding grants to States. Having a definitive timeframe for when grants will be awarded will improve our ability to notify sponsors of anticipated project start dates, allowing sponsors to better plan projects and coordinate their non-federal sources of match.

We appreciate that EPA Region 8 has heard our concerns on this subject and is taking steps to determine if improvements can be made. We encourage that this conversation happens at the national level as well.

Our second recommendation is that if the 319 allocation

formula is reevaluated, it needs to be done with careful consideration and input from all States. While changes to the formula would benefit some States, they could be detrimental to others. The DEQ has included in its written testimony some suggested factors for consideration if the formula is reevaluated.

Finally, the DEQ recommends that nationally, EPA and NRCS continue to gather and evaluate State feedback to determine how the Federal National Water Quality Initiative can be improved. The DEQ's partnership with our Wyoming NRCS is a critical partnership for us. With the common goal of water quality improvement, both agencies are committed to working together to improve delivery of conservation programs, including the National Water Quality Initiative.

While the initiative has resulted in positive outcomes in Wyoming, new requirements under the initiative have put additional burden on limited DEQ staff, and it has been challenging to meet those requirements. Further national initiatives with NRCS should stem from significant outreach to States and should allow flexibility in how States best pursue partnerships with their NRCS counterparts.

Thank you again for the opportunity to be here, and I look forward to your questions.

[The prepared statement of Ms. Zygmunt follows:]

Senator Barrasso. Well, thanks so very much for your thoughtful testimony. We will have questions in a moment, but first I would like to turn to Mr. Grumbles. Please proceed.

STATEMENT OF THE HONORABLE BEN GRUMBLES, SECRETARY OF THE ENVIRONMENT, MARYLAND DEPARTMENT OF THE ENVIRONMENT

Mr. Grumbles. Thank you very much, Mr. Chairman, and Ranking Member Carper. What an honor it is to appear before you today.

Our Nation is stronger when the Senate Environment and Public Works Committee is working together in a bipartisan manner for environmental progress. The 319 Program is an outstanding example of a critical effort that involves partnerships, nationally, State-based, regionally, and locally.

It really is an honor to appear before you. I am Governor Hogan's Environment Secretary for Maryland and as very kindly mentioned by Senators Cardin and Van Hollen, I also get to serve as the head of the Chesapeake Bay Program Partnership's Principal Staff Committee of Environment and Agriculture and Natural Resources Secretaries.

This hearing is important because it gives us an opportunity to tout what is working very well and also explore tweaks and possible revisions to make this program even stronger. Because the Nonpoint Source Program is only going to grow in importance and need in meeting our clean water fishable, swimmable goals.

I also want to emphasize, Mr. Chairman, how proud it is for me to appear before a committee where Senator Capito, Senator

Boozman, everyone works together to put funding in the right place. We are so appreciative of the recent efforts to boost the funding of programs, including for the Chesapeake Bay.

Senator, I work well with, Austin Caperton, and Senator Carper, you know that Shawn Garvin is a real leader, and we all work together to make progress for the Chesapeake Bay Program. But Mr. Chairman, the 319 Program is an integral component to local, State, and regional progress. So it is an honor to appear before you on that.

Governor Hogan, as the Chairman of the National Governor's Association, puts a real emphasis on infrastructure, a foundation for success, advancing repair, enhancement and modernization of our Nation's infrastructure, including aging water systems, through innovative public-private partnerships, smarter technologies, and a strong focus on resilience. A key to successful infrastructure programs is a holistic, integrated approach that also includes increased focus and attention on runoff and nonpoint source pollution.

One of the things I really want to emphasize here is that in Maryland, we see the value of local progress for clean water and coordinating on a regional basis. The Governor and the State of Maryland together in a totally bipartisan manner have made strong commitments. We are seeing real progress for the Chesapeake Bay, not only in reducing the point sources that are

regulated under the Clean Water Act, but also the nonpoint source pollution.

While we have made significant progress in our Bay restoration efforts, we will not be able to fully restore the health of the Bay, a national and ecological treasure with economic value exceeding \$1 trillion, unless all of our State partners and the District of Columbia also meet their commitments. We must ensure that we all factor in the impacts of climate change into our efforts to reduce nonpoint source pollution, as changes in rainfall patterns that increase runoff into the Bay threaten to undermine progress.

The other point I want to make is that 319 is something to be proud of. My hat is off to EPA and USDA and other Federal agencies who make it work well. It is a holistic approach to tackle water pollution problems on a watershed basis.

We value partnerships. It is not just with Federal agencies. It is with nonprofit organizations, like the Chesapeake Conservancy, with their Precision Conservation Initiative, and the Nature Conservancy, and other organizations that team up with States, and Trout Unlimited, as Jennifer mentioned.

But for us in the Chesapeake Bay, the key is to ensure that we focus on what is really needed. For us, the nonpoint source and stormwater challenges are among the greatest, and that is

why we need all of the States and the EPA to step up and play their appropriate roles.

I want to emphasize the role of the EPA. Maryland considers EPA to be the key to our partnerships for the Chesapeake Bay and the TMDL. Pennsylvania in particular has fallen short, woefully fallen short, and so we would strongly encourage additional funding for nonpoint source pollution for all of the States, streamlining in the process, but also for the interstate umpire, the EPA, to have the courage to step up and use the regulatory backstops that are available. It is not an aspirational role; it is an enforceable TMDL. We think that with a stronger 319 Program, and with EPA stepping up, that would be very important.

I would just like to emphasize, Mr. Chairman, that Maryland is fully prepared and will push the EPA to use its appropriate authority so that we can all make progress. We look forward to the discussions about how to continue to improve the 319 Program.

Thank you for your leadership on this matter.

Senator Barrasso. Thank you for your testimony. Thank you both for your testimony.

We will start with some questions. If I could start with you, Ms. Zygmunt, EPA regularly publishes success stories of particularly effective nonpoint source projects, nationally recognized Wyoming's 14 projects, including the one you mentioned with the North Platte River restoration project. In your experience, and you have done this for a while, what are the key factors in designing a project and implementing a project that make a project really overwhelmingly successful?

Ms. Zygmunt. Yes, Mr. Chairman. Thank you for the question. That is a very good question, and one that we ask ourselves often, and it is a question that needs to be asked often. Why do we see success? How can we build that success?

In terms of the ingredients that make a successful project, in my experience in Wyoming, first, you need that local champion, whether it is an individual, an organization, an agency that sees the need for some solutions to a problem and takes the initiative to make it happen. Part of my job is building that local capacity so that we have these champions on the ground. Often in Wyoming, that is a conservation district, but it may also be a nonprofit organization, or other folks as well.

Those champions, water quality might be their focus, it

might not, but they need to look beyond water quality. What are the other benefits that bring in partners into the watershed to make improvements, these win-win situations? Perhaps it is helping out the agricultural producers, perhaps it is helping hunting groups, recreation groups, fishing groups.

There are many reasons why people will come to the table. Water quality is just one of the reasons, and I think you need to find those projects where we are benefiting water quality, but we are finding solutions to other problems at the same time.

When you can bring everybody to the table, you build those partnerships which are critical for coordination. You need that coordination to make the dollars on the ground go further, make sure you are not duplicating efforts, and then you just need commitment over time.

This is a point that again, in my experience, it often takes decades to start seeing improvements from our projects. It is not always an immediate response. Sometimes you have to try many different practices before you find the right combination that results in water quality improvement. Some of the nonpoint source pollution problems that we deal with in Wyoming are legacy impacts going back hundreds of years, and they are not going to be fixed overnight. It takes time to mobilize the resources, it takes time to implement the projects, and it just takes time to work with nature and let those

projects become effective and get the data to show effectiveness.

And that being the last component of a successful project is that you have to monitor, you have to go out and look for data. I think we have to get beyond the point of just hoping that what we are doing is working. It is an important part of the program that we evaluate whether it is water quality data, range data, many ways that you can look for issues.

Senator Barrasso. There is a funding issue as well because, and we heard this from Senator Cardin as well, in order to have -- these things have started as a ground-up. But in order to receive federal funding, you have to seek out other funds. How does Wyoming secure resources to leverage the dollars that it receives from the EPA?

Ms. Zygmunt. Yes. Thank you for the question. We do require non-federal match for all of our Wyoming projects. We require a 40 percent minimum match. As an easy example, if your total project costs just \$100,000, \$60,000 could be 319 funds. The sponsor would need to show that 40 percent, \$40,000 is coming from a non-Federal source.

Really, one of the most important sources of match in Wyoming are from our landowners, either cash contributions to a project or in-kind services, meaning they volunteer their time or they volunteer their equipment toward a project.

We don't advocate for 100 percent cost-share. It is our philosophy for the conservation districts working with these producers that when we are working with agricultural producers, that they have skin in the game, so to speak, that they are contributing to the project as well. I think that is a very important point to make is that they are contributing their own resources and their own time to these projects.

We have local sources of funding, again the conservation districts, their time, if they have the local mill levy that provides them support, is a common source of match as well as city and county funds. Other State agencies that are critical for us showing non-federal match would be Wyoming Game and Fish Department and several other agencies.

Senator Barrasso. One last question as we talk about the 319 funds. According to the Government Accountability Office, the formula is weighted heavily toward State population, as well as the number of acres and agriculture crop production. If we were to update the formula, what suggestions would you make to ensure that each State receives a fair share of the funding?

Ms. Zygmunt. If the formula is updated, I think for Wyoming, some other factors that we would suggest be considered is that in addition to population size, we account for the number of tourists that come to Wyoming. We have under 600,000 in terms of our State's population. In 2018 we had over 4

million visitations to State parks, over 8 million to our national parks, monuments, and historic sites. That is not something that is considered, but obviously that level of tourism has the potential to impact our water quality.

I would also recommend that we considered increased weight for ranch land and grazing activities in addition to cropland acreage. I think as a headwater State, we would advocate for consideration of the benefits of protecting water quality at the source.

Finally, the emphasis on population size makes it hard for some of our smaller communities. All but two of our cities are under 50,000 people. It can be hard for them to find the local resources to address some of these problems, so I think a factor to help some of our smaller communities would be good.

Senator Barrasso. Thanks. Very, very helpful. Senator Carper.

Senator Carper. Thank you. I love it when the witnesses say, "thank you for that question." We have some people over here that may have three or four rounds of questions. Every question, they will say "thank you for that question." Even the lousy questions, they will still say "thank you" for that, so thank you for thanking us.

I want to look for some consensus here, a little bit of an agreement. I want each of you to give me maybe at least one,

maybe two areas of agreement, most important areas of agreement, that we could use to improve the 319 Program to better address the NPS pollution, problems that our States face. Just two areas where you think you agree that are really important. Go ahead. Do you want to go first, Jennifer?

Ms. Zygmunt. Yes. So in terms of improved areas of agreement, I would have to say our first would be our partnership with Wyoming NRCS. That is an evolving partnership, but we have common goals. We have had improved dialogue in recent years about how to prioritize.

Obviously, they have many resource concerns beyond just water quality. We have had much better conversations with them in recent years about how to prioritize water quality or to coordinate that with some of their other conservation programs. As important in Wyoming, our evolving partnership with the Wyoming Association of Conservation Districts, because of our reliance on the districts to help connect us to the local level, implement these projects. Our partnership with the conservation districts is one that we routinely coordinate with, maintain, and try to improve over time.

Senator Carper. All right. Stick to your guns.

Mr. Grumbles?

Mr. Grumbles. Thank you for the questions.

Senator Carper. Oh, you are welcome, you are welcome.

[Laughter.]

Mr. Grumbles. And I really mean it.

I do agree. I agree with just about everything that Wyoming DEQ is saying, although when it come to an allotment formula, we may have some disagreements. On the tourism component, though, that sounds very exciting as a criterion.

We certainly, I think there is common agreement that the 319 Program is a tremendously impactful and wise investment, and so that program from a federal funding perspective should grow. I also think there is agreement that flexibility is absolutely needed with any partnership program that doesn't rely on heavy regulatory controls. Partnerships are key, so you need to continue to boost innovation.

I think there is also agreement that for 319, the key is to tap into this exciting new world of smarter information technology, affordable sensing programs, remote sensing, really being be able to target where those dollars are best spent and working with agriculture and other sectors where it is really needed.

I would agree that this is a good program. The less paperwork, the more streamlining in the application process, I think, would also be something that States would uniformly agree is a good way to go with this critically important Program 319.

Senator Carper. All right, thank you. Ellicott City is a

town that my wife and some of her friends visited a year or so ago. They went shortly after, I don't know if they are 1,000-year floods or 500-year floods, that occurred within like, months of each other.

Mr. Grumbles. More than 500-year floods.

Senator Carper. Yes, there you go. The folks in Ellicott City think that climate change is real, and that it had something to do with the flooding that is going on.

I have been intrigued. Delaware punches above its weight farming. We do a lot of farming in Sussex County, and frankly, in Kent County and some in New Castle County. I am always looking for ways, as my colleagues know, to find ways to do good things for our planet, including addressing climate change and create economic value. I am intrigued by the ideas of encouraging farmers to use carbon capture in the soils that they grow crops in, in order to take the carbon out of the air and provide economic opportunity, better soils, to grow crops, all kinds.

Would you all just comment on that? Is that something that you are mindful of, thinking at all about?

Mr. Grumbles. Yes. First of all, I was caught in that Ellicott City flood and had to be rescued, eventually. It is a powerful reminder in an urban environment that flood control, flood prevention, and increasingly wild weather in this area

needs to be taken seriously. That is why we are proud that we are supporting climate resiliency efforts to help engage not only in urban retrofits, but also in smarter planning upstream and throughout the watershed.

Carbon capture sequestration is critically important, whether you are wearing the water pollution control hat or the climate change hat. Because it is all about healthy soils and finding ways to make agriculture more productive and also mitigate the risks of climate change by reducing carbon dioxide that is in the air through the healthy soil.

We are putting a real emphasis, Governor Hogan is, on healthy soils initiatives, and working with agriculture, not against, to be real leaders in reducing carbon pollution and increasing the health of our soils.

Senator Carper. My time is expired in, Ms. Zygmunt. Anything quickly you could add to this, just briefly?

Ms. Zygmunt. Yes. I agree, the soil health initiative is fascinating. We are seeing farmers in Wyoming that are starting to learn more about it, starting to implement techniques. That, and other practices I think are a great part of the 319 Program in that we are building resiliency from many angles.

A lot of the projects that we do are going to stabilize riparian areas, helping with flood control, off-channel water that we do with ranchers helps during droughts.

Climate variability is not new in Wyoming. It is something that we deal with regularly; droughts, floods, wildfires. Regardless of the reason, the increased resiliency from our projects, I think, benefits for many reasons.

Senator Carper. Mr. Chairman, I think I keep coming back to something that we talked about just a little bit in other hearings. There is something good here for farmers, and I would like to say it is possible to do good things for our planet and add economic value, and this is one way to do that. I know farmers can -- there are always good stories like that, I think our first was. But they can be better stories, and we can figure how to help facilitate that in the end.

Senator Barrasso. Thank you, Senator Carper. Senator Capito.

Senator Capito. Thank you, Mr. Chairman.

Thank both of you for being here today. The 319 Program is critical, we talked about, to the water quality of my State of West Virginia, under its non-regulatory framework, federal, State, and local governments partner with private groups and individuals to implement these programs. We do have a great DEP administrator, Austin Caperton, I am glad to know you are working with him.

Senator Carper. Sorry to interrupt. Is he related to Gaston Caperton?

Senator Capito. He is cousins, yes. It is West Virginia, we are all cousins.

[Laughter.]

Senator Capito. In any event, the two prevalent major nonpoint sources in our State are bacteria and then acid mine drainage, which we have dealt with, and done very well actually. Down the way from where I live, the Coal River Group has utilized the 319 grant funding to help homeowners repair their septic systems. This is something we have worked on in this committee, with getting people to get their septic systems up to quality, so that they don't become a bigger problem or age or leak or other things.

So now, the Coal River, they have a great kayaking business, they have great water festivals on the Coal River, and it is been a direct, I think, result from the 319 program.

In terms of the Chesapeake Bay, West Virginia is one of the headwaters of the Chesapeake Bay, and we have worked well, I think, to get our total maximum daily load down, thanks to the 319 Program. It is been very helpful with that.

On that issue, I would like to ask you, Secretary Grumbles, you mentioned working with other States. I have a two-part question. Number one, I don't know the answer to this question. Does the 319 Program allow you to do a regional approach where you could apply for funding as a region of States? Or is it

mostly State-to-State, and then how do you coordinate that when you are on the border? You want to do a project near Hagerstown, Martinsburg, Shepherdstown, that type of thing. That is my first question. Go ahead.

Mr. Grumbles. My answer to that is yes. We use the 319 Program to partner with other States in the Chesapeake Bay watershed. So 319 funds for Maryland can be used in a partnership program with West Virginia or with other States that are above us or beside us.

Senator Capito. So, does the funding come, like the West Virginia 319 Program uses their funding to partner with the funding from Maryland, so to speak?

Mr. Grumbles. Yes.

Senator Capito. Right. So one of the issues, I think, particularly in that region, and particularly with the Chesapeake Bay, is there is not a lot of population in the West Virginia part. I realize when you get into Maryland, you have got more population driven into that area when you start getting into the more populated parts of the Bay.

I think this has been an issue, not an issue, but something to look at in terms of funding, because of the heavy impacts that a less inhabited part, a more rural part of West Virginia is going to have on a more inhabited place, places in and around the Chesapeake Bay. Would you consider, would you see, is there

enough flexibility built into the program to be able to help that rural community? I think this is what you were talking about in Wyoming. I don't know how you see that issue.

Mr. Grumbles. I think it is important to look at that and work with the committee on trying to build as much flexibility into that in the spirit of source water protection and working upstream where you get the most bang for your buck and leveraging those dollars.

I just want to make sure the committee understand that the 319 Program, when you use the allotment for it, Maryland only gets \$2 million, but we have put up over \$75 million of our money into that program, and it just leverages tremendous broader partnerships. I think that the key of having flexibility, working with local or smaller populated communities upstream is where we see some real value downstream.

Senator Capito. In Wyoming, I think you mentioned that you have a headwater, you are a headwater State as well. The discussion we are having in terms of being able to fund those projects in terms of impacts further downstream, do you have an opinion on that?

Ms. Zygmunt. Yes. I would agree with Secretary Grumbles. I do think we have the flexibility to address both those issues, working with rural communities and having interstate coordination as needed.

In Wyoming, interstate coordination is very important. We haven't had as much formal coordination in the 319 Program. I routinely talk with my other State counterparts when we have got projects on the border with other States, we were letting them know what we are doing, seeing if we can encourage projects downstream as well. They are obviously very interested when we are doing projects upstream.

I absolutely feel that we have the flexibility that we need to work with our other States and to bring resources to our smaller communities.

Senator Capito. I don't have another question, but if I did, I would have asked about the capacity building. I think this is an issue in all types of water treatment, no matter whether you are looking at a non-source point, or whether you are looking at a rural water system, the technical expertise, I think, is something we really need to work on here to spur that on.

Mr. Grumbles. Can I just simply say, thank you for mentioning acid mine drainage. In Western Maryland, we are very proud as well, just like West Virginia, of using different technologies to reduce acid mine drainage and using 319 dollars for that. It is one of our true success stories, and we might have learned it from West Virginia, but it is certainly another reason to support the flexibility and continued flow of federal

support for 319 Programs like acid mine drainage mitigation.

Senator Capito. Thank you.

Senator Barrasso. Thank you, Senator Capito. Senator Van Hollen.

Senator Van Hollen. Thank you, Mr. Chairman.

Thank both of you, as witnesses. I think this hearing highlights the importance of the Section 319 Program to address nonpoint source pollution.

Another important program in that regard is the Rural Conservation Partnership Program, and I want to thank Senator Boozman for working with Senator Capito, Senator Cardin, myself, and others to increase the mandatory funding on the Farm Bill for that, because that is also vitally important to protect watersheds like the Chesapeake Bay.

I would like to zero in on something Secretary Grumbles commented on in his statement, and that is the current state of the Chesapeake Bay Agreement, which essentially puts different States on what we call a pollution diet, right? The TMDL is the total maximum daily load. As part of the Chesapeake Bay Agreement, some of the key States agreed that they would hit certain pollution reduction targets.

We just saw from EPA's analysis in December that the State of Pennsylvania is falling very far short on some of those key pollution reduction targets. There were some alarming

statements made recently by the head of the EPA's Chesapeake Bay Program suggesting that those pollution targets that States are supposed to achieve by 2025 are purely "aspirational," and that they are not enforceable, which, I think is dead wrong when you look at the agreement.

Secretary Grumbles, my first question is, have you gotten any clarification from EPA since that comment was made, as to whether they believe that the agreement is enforceable?

Mr. Grumbles. EPA issued a statement that backed away from using that word, aspirational, and underscored that they are committed to working with each of the States to meet their goals by 2025. We are still very concerned about that. We absolutely believe that it is not just aspirational, it is enforceable, and it is not just informational, it is integral to our success for 2025.

We understand full well that nonpoint source pollution is not regulated directly under the Clean Water Act. But when you have a TMDL and the uniqueness of the Chesapeake Bay TMDL, which is like no other in the Country with these watershed implementation plans that are then integrated into the 303(E), the continuing planning process, there are some real commitments and responsibilities and obligations that EPA has to implement the EPA Chesapeake Bay TMDL beyond aspirational.

Senator Van Hollen. I want to make it clear that I think

all of the members of the Chesapeake Bay States would like to work with the State of Pennsylvania to help it achieve its targets. We would like to see additional federal resources, whether it is from the Rural Conservation Program or other programs go to Pennsylvania to address these issues.

But ultimately, as of today, Pennsylvania is not on course to meet its targets, and we need assurances from EPA that it will play its role to ultimately enforce those targets. I am drafting a letter with Senator Cardin and others to make it clear to EPA that that is our understanding of what it means, and that understanding is actually affirmed by the Third U.S. District Court of Appeals decision. This has been litigated before, has it not?

Mr. Grumbles. It has. It is over a five-year period from the 2013 decision to a 2016 Supreme Court letting it stand. The Chesapeake Bay TMDL is lawful, EPA has an important role.

We are not trying to make the Nonpoint Source Program regulatory. It is through the context of the TMDL there is a clear and distinct responsibility of the interstate umpire to step in and take actions when a State like Pennsylvania is not even meeting 75 percent of its commitment. When it is going to be hundreds of millions of dollars, and they don't have the plan, we need intervention on that front and still work together as partners, but we need intervention and leadership.

Senator Van Hollen. Right. No, I don't think anyone is suggesting, just to be clear, making the Section 319 Program a mandatory program. This is a distinct agreement under the TMDL among the States, and a Third U.S. District Court of Appeals judge has already said that this creates enforceable rights and obligations.

I just want to say to you, Mr. Secretary, and to the Governor, that if we don't get assurances from the EPA in short order, that they are going to enforce these targets and come up with a realistic plan for hitting those targets, then we are going to have to sue EPA to do its job and enforce the agreement. I believe you agree, do you not?

Mr. Grumbles. Yes. And the Governor agrees. The Governor feels very strongly about this.

Senator Van Hollen. I just think this has come to a boil now with the statements that were made recently by the head of the EPA's Chesapeake Bay Program, and so this is a moment we need absolute clarity and an enforceable program to hit the targets in 2025. Thank you.

Senator Rounds. [Presiding.] Thank you. I think now what you will see is part of the dysfunctionality within the Senate as we now move in and out to try to get down and vote, so we will be passing the chairmanship back and forth and around. Those individuals who are leaving are not doing it out of

disrespect, but simply because they have to go and vote and try to get back in an orderly fashion.

Ms. Zygmunt, like Wyoming, South Dakota is a farming and ranching State with a relatively small population, but a fairly good size. Looking at Section 319, and we utilize 319 in South Dakota just like you do in Wyoming, I think there has been a question as to whether or not there is an appropriateness or whether or not there should be modifications to the existing formula with regard to two particular items. That is, the amount of ag land, that is, within the formula itself, versus the weighted credibility given to the population of the particular State.

In many cases, where you find, since this is a nonpoint source pollution program, the question is, should this be based or should we reconsider the formula funding to perhaps provide some additional credibility or weighting to the ag acres that are under production? I would like your thoughts.

If you could re-do the formula, you have been doing this for more than eleven years now, in Wyoming. What would you see with regard to not so much, would you consider a fairer formula? It hasn't been changed since the beginning. What would you see with regard to other areas that might be considered as we consider a fair distribution formula?

Ms. Zygmunt. Thank you, Senator, for that question.

I think I have trouble answering that question nationally, in terms of what is fair. I can definitely speak for Wyoming, in that yes, agricultural land use is one of our key land uses that we need to address nonpoint source from. Most of our success stories have involved an agricultural component.

If I am just looking at Wyoming, and if I had a pot of money and I had to come up with the formula to distribute the money in Wyoming, agricultural land use would be one of the top factors that I would consider in terms of what needs are where. But it is not the only factor, and whether or not it should be weighted more or less, I have trouble speaking to that beyond Wyoming.

One of the good aspects of the 319 Program is that we are able to address nonpoint sources of pollution from other sources. The urban-related sources in Wyoming, sometimes there is not funding to help communities out with those sources. Septic systems are another issue in Wyoming that we can help with.

So agriculture is important in Wyoming. I see that being one of our top priorities, but there are other sources in parts of the State that 319 has the flexibility to address. Within the State, that flexibility is very important. Ag as a factor, as I mentioned in my statement previously, I would recommend if the formula were reevaluated to add more weight to the range

land, grazing aspect of it, not just irrigated crop land.

Senator Rounds. Thank you. I am also curious. In your testimony, you state that partnerships with the agricultural community are important for successful nonpoint source pollution mitigation. In your testimony, you have also included supporting documents highlighting your success in reducing levels of selenium in local waters flowing through the North Platte River.

Can you talk a little bit about the success of this voluntary program, and nobody is talking about making it a mandatory program, but can you talk about how the ag community and the rural communities feel about this being a voluntary program?

Ms. Zygmunt. Yes, in Wyoming, absolutely, there is support for our program being voluntary. Again, that is what we have found to be most effective. It builds the most trust with our agricultural community, and again, our conservation districts are key in building that link between the 319 Program and the local producers. The conservation districts are the folks out there talking with producers, talking about the program, explaining what 319 is. It is my job to help build that trust with the conservation district to facilitate that discussion, provide the district with the resources that they need so that they can take the next step working with the producers.

Yes, absolutely, support for the voluntary approach in the conservation districts are key to building that trust with the ag community. Thank you.

Senator Rounds. Thank you. Senator Merkley.

Senator Merkley. Thank you. Coordinator Zygmunt, do you have much challenge with phosphorus in Wyoming as a runoff that affects waterway quality?

Ms. Zygmunt. It is a newer issue for us. Nutrients, including phosphorus, is an issue. It is not one that we have done a lot of monitoring for to date. We are in the process of developing numeric nutrient criteria, but we are seeing harmful algal blooms withing the State and are working on a response plan for those. We are in the process of developing a bigger nutrient program right now. Our focus has been on sediment and bacteria, but we are heading that way.

Senator Merkley. Secretary Grumbles, is that an issue for you in Maryland?

Mr. Grumbles. It is. It is also an opportunity. It is a very important issue, as Senator Carper knows, in the Delmarva Peninsula, phosphorus management. Governor Hogan is very proud of the fact that we updated the science and put in place strong regulations to reduce potential phosphorus.

Senator Merkley. The reason I ask both of you is because algal blooms across the Country are affecting almost every

State, most certainly the warmer water. The nutrient runoff is causing lots of troubles in our lakes and waterways in Oregon.

There is some very complex chemistry that is occurring. For example, Diamond Lake has a significant phosphorus that was driving an algal bloom, but when the invasive to a chub fish was removed from the lake, then the zooplankton ate the algae, and the water clarity increased to a depth of over twenty feet from about two or three feet. It just cleared up the algae because of changing the chemistry, even with the same phosphorus load.

We have another lake, Klamath Lake, where we have endangered suckers. We are having a really complex challenge with it, where you have one algae bloom that fixes nitrogen, and then a second algae bloom that used that nitrogen and it produces a range of toxins. It is not really just two algae, there is a whole suite of different algae, but I am crudely describing it. We have a species there, the fathead minnow, that has become 80 percent of the mass in the lake.

As I see these issues, they are so complex. Shouldn't we have kind of a national algae team that understands and is learning from each and everybody's experience and challenges in Wyoming and Maryland and Oregon to kind of help everyone else, including ourselves understand these issues better and how to address them?

Mr. Grumbles. Yes.

Senator Merkley. We don't really have that, at least I haven't seen that, like experts at the national level on algae that can come to Oregon and help us understand, because we have very different challenges in lakes that are not that far apart.

I think this is the main thing I wanted to address because in terms of our nonpoint, we have sediment issues and so on and so forth as well, but this is one that is really changing the chemistry of the lake. The algae near the surface is creating warmer temperatures in the lake. It is also decreasing the sunlight going deeper into the lake. Not only does it produce toxins, but when it dies, it strips oxygen from the lake.

We have multitudinous sources of phosphorus, including natural background phosphorus, tail water from irrigation operations, former wetlands that are drying out and release a lot of phosphorus when it rains. I am just thinking, in addition to these monies, it would be great to have a real team of experts on the biochemistry of lakes and the interaction with aquatic zooplankton, algae, invasive species, and so forth to help us address these challenges.

Ms. Zygmunt. Senator, I think that is a very good point. Like I said, we are in the initial stages of building an improved harmful algal bloom response strategy in Wyoming. We have prioritized one of our reservoirs for proactive nutrient reduction efforts. It is a very high-rec use reservoir, so it

is very important for us to address the recurring algal blooms that are occurring there.

As one example, the University of Wyoming has put together a team that hopefully will get some funding to do a detailed study on that reservoir to understand that complexity and help answer some of the questions particularly that we are getting from stakeholders about with the blooms are occurring and the best way to address them.

It is a complex issue, and I think there is definitely a need to have support for technical assistance to understand it so that we can mitigate it most effectively. We are seeing some assistance through the University of Wyoming, and we are also attending regional conferences when they become available. I know upcoming in February, there is a Midwest conference on harmful algal blooms where we will be participating to learn from other State resources.

Mr. Grumbles. Senator, I would just simply add, I know there has been a national effort on harmful algal bloom research and control. Perhaps what you are suggesting is there needs to be more at the national, federal level of the many excellent research scientific agencies that are there.

I can tell you that from a regional and State perspective, we absolutely agree that nutrients, particularly phosphorus, need good strong science and integrated partnerships and find

ways to reduce unacceptable or excess levels of phosphorus and repurpose that phosphorus and use voluntary as well as regulatory tools, not just in agriculture, but in the wastewater community through enhanced wastewater treatment technologies, but not lose sight of the importance of the phosphorus loading, which is a big part of our Chesapeake Bay challenge.

Senator Merkley. We are looking at how can you cost-effectively strip algae, harvest algae from the lake, removing that algae and the phosphorus. We are looking at how much can the wetlands reduce it. We are looking at the whole range of things.

What has really struck me is, for example, in aquarium studies of how toxins affect the fish, we only have limited toxins that are relevant to the range of toxins produced by the algae to even be able to test, so there is a big scientific gap here that we need to focus more on. I will just close by noting that the amount of funding for this program has gone down significantly over time, and it seems to be that the challenges are getting greater. Maybe we should be increasing funding for it.

Thanks.

Senator Barrasso. [Presiding] Senator Boozman.

Senator Boozman. Thank you, Mr. Chairman, and we appreciate you all being here very, very much.

Ms. Zygmunt, the State of New Hampshire in comments collected by the Association of Clean Water Association's Administrators suggested that an audit should be performed on reporting requirements to detect any redundant reporting done by the State to EPA. Do you believe that there are areas of the 319 process that can be streamlined, and can you give some examples of that, perhaps?

Ms. Zygmunt. Yes. Thank you, Senator. Overall, I feel like we have worked in recent years to evaluate reporting requirements. Right now, I don't feel like the reporting requirements that we have as a program are onerous.

Senator Boozman. Good.

Ms. Zygmunt. I have worked at the next step to help my project sponsors with that reporting step. If I make their job easier, it makes my job easier, it makes the EPA's job easier. It is definitely a team effort.

Right now, I don't have any immediate suggestions for streamlining reporting. I think it is an ongoing process. EPA is coming up with some very good tools, such as "How's My Waterway," which will be an excellent tool to get more information to the public about water quality. It will pull information from the main database that we use to track our 319 projects, which is good, but it will require us to go and make sure that we are keeping our data entry up to date, making sure

that it is thorough and sound and it is what we would want to present to the public.

I think there are some upcoming requirements that we just need to have conversation with EPA about in terms of how to make that most effective.

Senator Boozman. Very good. That is good to hear. Secretary Grumbles, it is good to see you. The Secretary was one of my former predecessors, is that right? Former predecessor?

[Laughter.]

Senator Barrasso. Anyway, a Congressman that he served under and worked for and I just want to compliment you. It is so good to hear the two Senators from Maryland be here and compliment you on your hard work. The fact that you are so well-respected on both sides of the aisle, that is a great example for all of us.

We do appreciate all you do. I know that you work very, very hard. Nobody understands the issues better than you, and the fact that you make it, especially with these water issues that are so, so very important. These are areas that we can find common ground on. We all want to get it done in a logical way, and you have really set the pace in that regard, so give yourself a pat on the back.

I have got a quick question for you because I have got to

run and vote. Aside from providing additional money to the 319 Program, how can we leverage more funding for nonpoint source pollution projects?

Mr. Grumbles. Thank you, Senator. The key to innovation is being willing to find ways to bring in additional partnerships and market-based solutions, one of the best ways to leverage additional funding through the 319 Program.

We should get a boost in funding, but the best way to leverage is by using market-based strategies, creating incentives, such as water quality trading or pay-for-performance contracting, where with the knowledge that is gained through the 319 Program and the science of the technologies of being able to see, wow, we will get some really good progress in water quality, that can then help create incentives for unregulated players to come to the table and come up with ways to reduce the pollution, whether it is acid runoff from mining or excess phosphorus or nitrogen or algae or green infrastructure.

The best way to leverage is to invite more partners to the table and reward them through market-based strategies like water quality trading or pay-for-performance contracting.

Senator Boozman. Very good. Thank you, and we do appreciate both of you very, very much.

Senator Barrasso. Thanks, Senator Boozman. Senator Gillibrand.

Senator Gillibrand. Mr. Chairman, thank you for holding this hearing today.

Clean water is a basic human right, and assuring that all Americans have access to it for their families must be a top priority for all of us. New York State has a strong record when it comes to protecting our water. New York City has a water supply providing unfiltered, clean drinking water for 9 million New Yorkers.

However, our State continues to face the challenge of ensuring that our water stays safe and clean. Harmful algal blooms and other water quality problems associated with nutrient runoff and fertilizer use threatens our lakes. We are spending record amounts of money to clean up the Long Island Sound and reduce its nitrogen load. New York State is also committed to partner to doing our part to clean up the Chesapeake Bay, and we will meet the 2025 targets in New York's watershed implementation plan.

One of the biggest water quality challenges we face has to do with the growing problem of PFAS contamination. That is an issue that is affecting New York, the whole Country, and it is creating great concern.

I am very concerned about the prospect of PFAS chemicals entering our water bodies through nonpoint source pollution due to the use of sludge from water treatment facilities as a

fertilizer on agricultural crop lands. We are essentially taking PFAS pollution from point sources and turning it into nonpoint source pollution through agricultural runoff and groundwater contamination. This hurts our farmers, who now must deal with PFAS contamination on their land. It potentially harms the public by contaminating food and water.

This is happening in States from Maine to Michigan to New Mexico. Secretary Grumbles and Ms. Zygmunt, are your States taking any action to detect and address nonpoint source pollution from PFAS?

Mr. Grumbles. Well, Senator, I know that for us in Maryland and the Maryland Department of the Environment, we are looking very carefully at potential biosolids land application of sewage sludge as a potential source. Our Water Office and our Land and Management Office are looking at this.

The first step is to see, are there indications of a problem. Because we are, in working with other States like New York, or States around the Country, know that there is growing evidence of real concern about PFAS, and not just from a point source, but from nonpoint sources.

So it is on our radar screen, and we are committed to learning more and partnering for pollution prevention.

Ms. Zygmunt. Thank you, Senator. My short answer is that no, PFAS has not made its way to our nonpoint source program at

this time. We have other staff in our water quality division that are working on PFAS issues. It is beyond my area of expertise at the moment, but I would be happy to get more information for you from the staff in terms of what efforts they have made and where they are at.

Senator Gillibrand. Great. And what can be done on a Federal level to support more awareness and action at the State and local levels to address the issue?

Mr. Grumbles. I certainly can say as a member of the Environmental Council of the States, ECOS, which is all the State directors and commissioners on environment, that every single meeting our group has from the director of Wyoming DEQ, to our State, to New York, Basil Seggos, the commissioner, we talk about and develop strategies and compare notes on regulatory tools and science-based tools.

The answer is a continued, strong commitment on Federal agencies like EPA to keep moving forward on the science and the communication and the necessary regulatory tools to reduce the threat from PFAS chemicals.

Senator Gillibrand. What impacts do you anticipate that increased precipitation will have on the amount of pollution entering our water bodies and our ability to implement measures to address pollution?

Mr. Grumbles. This is a question separate from PFAS,

although, everything can be connected.

Senator Gillibrand. Correct.

Mr. Grumbles. Well, as Jennifer mentioned, and as I certainly mentioned in our testimony, a key component of a successful water program is resilience and taking into account weather and precipitation. New York participates in the Chesapeake Bay TMDL, and I am proud to say that we all have agreed to factor in climate resiliency, specifically because it becomes -- it is a multiple -- the increased precipitation in some regions, like here in the Mid-Atlantic, including snowmelt. Basically precipitation becomes a threat multiplier in terms of pollutants that are on the land, urban, suburban, rural.

We are factoring in a narrative and numeric criteria to the Chesapeake Bay pollution budget specifically dealing with the anticipated increase in precipitation in our region.

Senator Gillibrand. Thank you, Mr. Chairman. Thank you, witnesses.

Senator Barrasso. Thank you, Senator. Senator Braun.

Senator Braun. Thank you, Mr. Chairman.

I have been a lifelong conservationist. I have been worried about the state of air quality and water quality since I have been a kid. I was able to move back to my hometown and actually practice what I preach.

When it comes to nonpoint sources, we employ riparian

buffers, cover crops, no-till farming, a lot of different methods, and I think somebody earlier mentioned that farmers are the true stewards of the land. I also look at air quality and water quality to where air quality, we make great strides, but we are largely at the mercy of what the rest of the world does.

When it comes to water quality, we can really have impact within our own Country. When it comes to, I have heard, first of all, Section 319, I think it is worked very well. The skin in the game that you mentioned is important.

What is the current state of the health of waterways? And I would like you to also talk about point source and nonpoint source, and tell me what your opinion is from where it is now versus what it was 10 to 15 years ago. I would like to hear from both of you on that.

Mr. Grumbles. What an awesome question. Thank you. EPA definitely and other federal agencies need to follow up on that question about national standards and trends. I can say without hesitation that our Nation has made tremendous progress on water quality over the last several decades, unbelievable progress, in terms of reducing toxic pollutions and conventional pollutants. So we are on the right track.

But I can also say without hesitation that in some areas, it can be increasing, localized increasing urbanization, or some pollution source that isn't adequately controlled or managed, or

with emerging evidence of contaminants that hadn't previously been focused on that are problems. There is a mission not yet accomplished, for sure.

We often say, and the point source, the regulated, particularly industrial and municipal, that we have made tremendous strides. Maryland has absolutely been a leader in reducing pollution from industrial and wastewater treatment plants with very costly technologies to reduce the nutrients and the pollutants.

But we also know that there are some increasing trends with new contaminants or chemicals, as the Senator from New York mentioned, that are new challenges for us because our science is getting better, our ability to detect challenges.

On the nonpoint source front, the story is still true, that because of the diverse and diffuse nature of the pollution, that is going to continue to be a challenge, and we just need, more than ever, new tools, not just regulatory tools, but partnership tools and better local and place based. It is really important to not declare victory on the water quality front, and with climate change, the more extreme weather conditions, that brings a whole lot of additional challenges that weren't as big in the past.

I would just conclude with, we are making real progress, but we absolutely need to focus more and more on nonpoint source

runoff and smart, market-based strategies and ways and also emerging contaminants of concern.

Senator Braun. Jennifer, briefly comment, because I want to come back to you with a question before my time expires. Go ahead.

Ms. Zygmunt. Thank you, Senator.

Yes, speaking for Wyoming, overall, we are blessed with great water quality. We have our challenges. I think we are seeing improvement, as shown by our success stories.

As Secretary Grumble said, we have those emerging contaminants coming up that cause us to adapt and learn new techniques and new methods to deal with them. We also see changing land use, and that is something that, in Wyoming, causes us to adapt as well. In some parts of the State, we are seeing a lot of rural subdivisions, so whereas previously, maybe you worked with one or two large ranchers, now we are working with maybe 50 small acreage landowners.

It is changes like that that continually keep you challenged, keep you on your toes, and another reason why we need flexibility in the program to adapt to those over time. I think we are seeing improvement. One of the indicators that I have seen over my 11 years in this program is that I see an accelerated buy-in into new ways of doing things. People are open to new ideas. Ranchers and farmers are more willing to do

something different than they have done in the past, to see if it will improve resources and improve the agricultural production.

Senator Braun. Very quickly, and this is a particular question. Riparian buffers are, to me, a poor replacement for forestation that would go deeper into the watersheds. Can we ever have meaningful impact on water quality, especially in agricultural States, if we are just looking at riparian buffers versus what has caused it over time to where we have deforested across main watersheds? You start, and then give me a quick follow-up.

Ms. Zygmunt. Sure. I believe riparian buffers are a critical management practice. They are a very small part of Wyoming, but they are critical for water quality and for wildlife habitat. We see a lot of benefits when we improve our riparian areas to water quality, providing a filter for runoff before it reaches a stream, providing shade to reduce temperature within the stream.

Riparian buffers are a critical practice of what we do in Wyoming. So yes, I do think they are a great practice.

Mr. Grumbles. I think your question, obviously, prompts the response of, we have got to have a broader, more holistic approach to forest conservation, looking up into river basins for green infrastructure conservation and protection and source

water protection. We get into trouble when we rely solely on end-of-pipe or edge-of-field solutions. But riparian buffers are very important, critically important tool, it just can't be the only tool.

Senator Braun. Thank you.

Senator Barrasso. Thanks, Senator Braun.

This was very interesting and informative. Fourteen Senators showed up. We are in the middle of a vote, so people have been coming and going, but that is quite a successful attendance, which shows the importance of what you are doing.

No one else is here to ask questions, but they may submit written questions, so you can expect those. The hearing record is going to be open for the next two weeks. We are very grateful for your time and your testimony. Very, very helpful on this very important issue.

The hearing is adjourned.

[Whereupon, at 11:31 a.m., the hearing was adjourned.]